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ABSTRACT

Beginning with an introductory handbook, this competency-based curriculum contains 13 modules for an 81-hour secondary- or postsecondary-level course for Emergency Medical Technician (EMT). Introductory materials include module component descriptions and information for administering an EMT training program, such as an instructor's schedule, list of needed training equipment and audiovisuals, and required texts and supplementary references. Each module is divided into some or all of these components: behavioral objectives (skill and knowledge objectives), instructor activities, instructional equipment and materials, student activities with skill development checklist, anatomy and signal code handouts, module outline (instructor's lecture format with lecture topics and references), demonstration outlines, student practice sessions, skill evaluations, and task descriptions with loops (tasks are normal, logical flows of procedures, while loops are logical flows of procedures when a problem is recognized within a task). Module titles are Orientation and Registration, Basic Life Support and Primary Survey, Secondary Survey and Shock, Soft Tissue Injuries, Central Nervous System Trauma, Orthopaedic Injuries, Medical Emergencies, Patient Handling, Extrication, Emergency Care of the Emotionally Disturbed, Obstetrics and Pediatric Injuries, Triage and Special Care Situations, and Dispatch and Travel to the Scene. (YLB)

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Student Material

EMERGENCY MEDICAL TECHNICIAN

Competency Based Education Curriculum

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CE 032 208

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July 1979

EMERGENCY MEDICAL TECHNICIAN

COMPETENCY BASED CURRICULUM

DEDICATION

The material contained in this curriculum is dedicated to the Volunteer West Virginia Emergency Medical Technicians who give so willingly, so that each of us may have the opportunity to see the sun break over the hills of West Virginia each day.

PROJECT DIRECTOR: . . . . . . Sue Ann Spotts, R.N.

CONTRACT NUMBER: WV-78-E-7

PROJECT NUMBER: BVTAE-76-WV-78-E-7

PROJECT: 1361-8

Not NCC

WEST VIRGINIA
EMERGENCY MEDICAL TECHNICIAN
HANDBOOK
FOR
COMPETENCY BASED CURRICULUM*

BVJAE-76-WV-78-C-7

CE032208

*To accompany the revised EMT Curriculum

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EMERGENCY MEDICAL TECHNICIANS

FIELD TEST TEAM OF COMPETENCY BASED CURRICULUM

This curriculum was revised and refined by field testing in three counties of West Virginia. A total of 6 classes were conducted. The key members consisted of:

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We are particularly appreciative of Roy R. Martin and W. F. Bowley, Regional Coordinators of Public Service Training. To T. A. Welty, State Coordinator of Public Service Training, a commendation should go for excellence in having chosen excellent Regional Coordinators.

A special thanks to the State of Pennsylvania Bureau of Vocational Education for having originally developed an exceptional curriculum from which this revision originated.

We would be remiss if certain other individuals were not mentioned in making this project work:

J. Richard Campbell, Superintendent, Mineral County Schools
Joseph W. Kessel, Director of Mineral County Vo-Tech Center
Terry L. Cannon, Coordinator of Adult Evening Education
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West Virginia Office of Emergency Medical Service
Donna Parker, Project Secretary
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To Fred Harrington, Coordinator, Curriculum Development, for the faith and support during the entire project.

To Roy Thomas, Director of Research Coordinating Unit, Marshall University, for always finding the time to answer endless questions, Thank You.

GENERAL INTRODUCTION

The Emergency Medical Technician course is directed to those individuals who serve or are interested in serving either as paid or volunteer EMT's. A large percentage of individuals working on ambulances are trained at the level of advanced first aid or below. It has been shown that this training is less than adequate. Related organizations and experts working in the field of emergency medical services have recommended that ambulance attendants be provided a greater amount of training. These recommendations have resulted in a generally accepted level of training which consists of approximately 71 hours of classroom lecture and skill practice and 10 hours of in-hospital observation. The 10 hours in-hospital observation may be replaced with 10 hours of ambulance service, as stated by the West Virginia Office of Emergency Medical Services. The revision and field test team recommends that the students participate in the hospital observation hours. This allows the students to become acquainted with the hospital emergency teams, develop a rapport with hospital personnel and familiarize themselves with the hospital emergency departments. This team, also, recognizes the time limit placed on presenting an effectual EMT course is insufficient, and further recommends that the 81 hours be devoted to classroom development and 10 additional for in-hospital observation. Upon completion of this EMT course, the student will have fulfilled the training requirements, as recommended by the DOT. The student, will further, be prepared to take the National Registry of Emergency Medical Technicians examination and the West Virginia Office of Emergency Medical Service Practical Examination.

It is the objective of EMT training to provide the ambulance attendant with the skills and knowledge which are necessary to provide emergency treatment, using non-evasive techniques, at the scene and during transportation to a critical health care facility. Upon successful completion, the student will be able to use such equipment, as the bag-valve mask, oropharyngeal airway, aspirator, splinting and immobilization devices, and aids to hemorrhage control. In addition, the student will be trained in dispatch techniques, patient handling, childbirth, crisis intervention, extrication of an entrapped patient and the safe operation of the ambulance.

This EMT course is designed to be offered at existing educational facilities, such as the area vocational-technical school, community college, or high school. The use of an existing educational facility provides certain advantages which should result in a more efficient and effective training program.

1. Existing educational institutions are designed to provide training, thus, the facilities needed for both classroom lecture and practical exercises are normally available.

2. Using the existing educational facilities enables one to assemble the required equipment to operate the training program in one location for use by multiple classes. This results in the ability to purchase the best equipment available and to assure its cost-effective use in training a large number of students. The equipment employed in an EMT training program may also be used by the school for other related medical programs. Also, existing health occupation classes at the existing educational facility may have material available to enhance an EMT training program.

3. Training equipment and aids such as blackboards, audio-visual equipment, facilities for duplication of materials, and training aids are normally available within the educational institution. In addition, the specialized services of a learning resources department may be available to further enhance the program.

4. Educational institutions are normally centrally located to serve the surrounding population.

5. The use of a central educational facility provides accessibility to training for all of the many organizations providing ambulance service within the region, both paid and volunteer.

6. The existing administrative procedures of the educational system can be used to provide such things as publicity for the course, certification of the students, and funding for equipment procurement and instructors' salaries.

This course was originally developed, and now revised and field tested, in response to the need expressed by many experts in the field to produce a course which was based upon the job-related competencies necessary to perform the EMT function.

Successful completion of the program should be based upon the competent performance of the course objectives rather than the number of hours spent in training.

STUDENT HANDBOOK

FOR

COMPETENCY BASED EDUCATION CURRICULUM

OF

EMERGENCY MEDICAL TECHNICIAN

This handbook is designed for you, the student, enrolled in the 81 Hour EMT course.

The development of this handbook is based on the idea that you, the student, needs to know in advance where you are going and what you must accomplish to attain the goal of becoming a certified EMT.

As a student, you need to know that each of us is an individual with different needs and abilities. You are special in your own being, and each of you will fully develop as a competent EMT if your ability to learn is met in an atmosphere which fulfills your need to learn.

The time and duration of fulfilling this need may not be the same for every individual.

If you, the student, are highly motivated, learn easily, and hold a certification in Advanced First Aid and CPR, you may be able to work ahead on modules to be presented under the supervision and guidance of the instructor.

If it is necessary to follow the instructor step by step to accomplish completion of this course, you need only to follow the instructor's time schedule of presentation of the EMT modules. You may refer to many of the Alternative Learning Resources available to improve learning abilities. As the instructor moves on to a new module, you will have a record of material or skills that you have not completed. This allows you, when time is available, to practice and complete these skills. The following pages will describe the different components of the EMT course. The instructor will fully orientate you to the use of this handbook.

HOW TO USE THIS HANDBOOK

As you read the Table of Contents, you will notice that the Components of the curriculum have been grouped togeather into major sections called Modules. These Modules are made up of several activities. The contents within each Module are instructions and material needed to develop the skills and knowledge to become an EMT.

The following are the components of the Modules. Please read each step carefully. All Modules are developed using the same format, (except Module I, ORIENTATION AND REGISTRATION, this Module will be described first and separately).

MODULE I: REGISTRATION AND ORIENTATION:	This module will be presented on your first class night. You are to complete this module by doing the Student Activities after you have already attended class.
Student Activities Sheet:	Read all the steps listed on this sheet for completion of this module.
Knowledge Objectives:	In-Hospital Training: These objectives tell you, the student, what you are required to master from your In-Hospital Training experience.
In-Hospital Checklist:	This checklist is divided into hospital departments. (EXAMPLE: Emergency Room; Delivery Room.) Keep these checklists and take them to the hospital during training time, and complete the observation column reading the directions for each department. You may or may not be allowed to observe all the departments on the checklist. This may vary from hospital to hospital.
TASK Sheet:	Tells you how to begin a specific job skill and the logical steps necessary to take in order to complete or master this TASK. Please read carefully each step (called Elements); if you do not understand the Elements or steps within this

HOW TO USE THIS HANDBOOK: (continued)

	TASK, please ask your instructor for guidance.
Workbook Assignments:	Will be found on the Student Activities Sheet in Step 1 - C. Do the self-assessment test after completing all of this module.
MODULES: II, III, IV, V, VI, VII, VIII, IX, X, XI, XII, XIII.	These modules all follow the same learning format.
Student Activities Sheet:	Check Instructor's Schedule for presentation of each module. Begin Student Activities Sheet before Module is being presented. Read all the material presented on this sheet. It will guide you step by step to completion of each module. Completion of the Student Activities Sheet will insure you that you have met the specified objectives. The last step on all Student Activities Sheets is the "SKILL DEVELOPMENT CHECKLIST." As you are evaluated and pass each skill, have your instructor initial your checklist. If you have not developed your skill fully, when the instructor continues onto the next Module, you will have a record of completed and uncompleted evaluations. Come back and complete these skills when time is available or when you feel you are properly prepared to pass skill evaluation.
Knowledge Objectives:	Read Carefully. This information will explain to you specifically what you are expected to master when leaving this module. A written examination may be given at the end of each module and should follow the knowledge objectives.
Skill Objectives:	Are the Manipulative skills (hands on) you need to practice and develop before completing this EMT course. These skills will be first demonstrated by the instructor during the lecture of the Module.

HOW TO USE THIS HANDBOOK: (continued)

Handouts: 1 to 13:	These are specific body parts and functions designed to assist you in understanding the human body. These handouts may also be used during the instructor's lecture, to follow the anatomy portion of each lecture. Pictures are designed simply to aid you in visual (eye) understanding, of anatomy discussion.
Practice Sessions:	After the instructor's lecture and demonstrations, the class will be divided into groups for practicing the skills demonstrated in preparation for evaluation. Group/team practice allows you also to develop team working skills.
Skill Evaluations:	Is a checklist to determine if you have developed a specific skill in the correct sequence or steps. You may practice with evaluation sheet, but you may not use this sheet during the actual skill evaluation (test). Your instructor will need your skill evaluation sheet to grade you during the testing. Remember: you will decide if you are ready to be tested and your instructor will decide on a Pass/Fail system if you have achieved the proper skill development. Elements done out of sequence on these tests will require a retake of skill test. NOTE: In Module II: Basic Life Support and Primary Survey: if you hold a current American Heart Association CPR card you need only to take skill evaluations numbers 6, 7, 8, 9, 10. If you do not hold a current AHA CPR certification, you will be given written and skill evaluations from the AHA, to test with, plus skill evaluations number 6, 7, 8, 9, and 10.

HOW TO USE THIS HANDBOOK: (continued)

TASKS/LOOPS:

A "TASK" is a job-related skill which constitutes logical and necessary steps in the performance of a segment of the EMT'S overall duties. Each step listed is called an Element. When a situation or problem arises in the performance of a specific TASK, you are directed to a specific LOOP. Go to the specified LOOP to solve the problem. The LOOP will direct you when to return to the TASK Elements.

The Student Handbook sheets will be keyed with two sets of numbers. The numbers at the bottom of the sheet (VII - 8) are for instructor's use only. This set of numbers corresponds to the same pages in the instructor's manual. The numbers at the top right side of the page are for student use and match your handbook Table of Contents. For example: I - 1 means Module one (1) Page one (1), VI - 5 means Module six (6) Page five (5).

Using this handbook should help to migrate through the EMT program with relative ease.

The West Virginia EMT Project Director and Field Test team wishes you success and enjoyment in your chosen occupation.

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EMERGENCY MEDICAL TECHNICIANS

FIELD TEST TEAM OF COMPETENCY BASED CURRICULUM

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GENERAL INTRODUCTION

The Emergency Medical Technician course is directed to those individuals who serve or are interested in serving either as paid or volunteer EMT's. A large percentage of individuals working on ambulances are trained at the level of advanced first aid or below. It has been shown that this training is less than adequate. Related organizations and experts working in the field of emergency medical services have recommended that ambulance attendants be provided a greater amount of training. These recommendations have resulted in a generally-accepted level of training which consists of approximately 71 hours of classroom lecture and skill practice and 10 hours of in-hospital observation. The 10 hours in-hospital observation may be replaced with 10 hours of ambulance service, as stated by the West Virginia Office of Emergency Medical Services. The revision and field test team recommends that the students participate in the hospital observation hours. This allows the students to become acquainted with the hospital emergency teams, develop a rapport with hospital personnel, and familarize themselves with the hospital emergency departments. This team also recognizes the time limit placed on presenting an effectual EMT course is insufficient, and further recommends that the 81 hours be devoted to classroom development and 10 additional for in-hospital observation. Upon completion of this EMT course, the students will have fulfilled the training requirements as recommended by the DOT. The students, will further, be prepared to take the National Registry of Emergency Medical Technicians Examination and the West Virginia Office of Emergency Medical Service Practical Examination.

It is the objective of EMT training to provide the ambulance attendant with the skills and knowledge that are necessary to provide emergency treatment, using non-evasive techniques at the scene and during transportation to a critical health care facility. Upon successful completion, the student will be able to use such equipment as the bag-valve mask, oropharyngeal airway, aspirator, splinting and immobilization devices, and aids to hemorrhage control. In addition, the students will be trained in dispatch techniques, patient handling, childbirth, crisis intervention, extrication of an entrapped patient, and the safe operation of the ambulance.

This EMT course is designed to be offered at existing educational facilities such as the area vocational-technical school, community college, or high school. The use of an existing educational facility provides certain advantages which should result in a more efficient and effective training program.

1. Existing educational institutions are designed to provide training; thus, the facilities needed for both classroom lecture and practical exercises are normally available.

2. Using the existing educational facilities enables one to assemble the required equipment to operate the training program in one location for use by multiple classes. This results in the ability to purchase the best equipment available and to assure its cost-effective use in training a large number of students. The equipment employed in an EMT training program may also be used by the school for other related medical programs. Also, existing health occupation classes at the existing educational facility may have materials available to enhance an EMT training program.

3. Training equipment and aids such as blackboards, audio-visual equipment, facilities for duplication of materials, and training aids are normally available within the educational institution. In addition, the specialized services of a learning resources department may be available to further enhance the program.

4. Educational institutions are normally centrally located to serve the surrounding population.

5. The use of a central educational facility provides accessibility to training for all of the many organizations providing ambulance service within the region, both paid and volunteer.

6. The existing administrative procedures of the educational system can be used to provide such things as publicity for the course, certification of the students, and funding for equipment procurement and instructors' salaries.

This course was originally developed, and now revised and field tested, in response to the need expressed by many experts in the field to produce a course that was based upon the job-related competencies necessary to perform the EMT function.

Successful completion of the program should be based upon the competent performance of the course objectives rather than the number of hours spent in training.

USES OF THE EMERGENCY MEDICAL TECHNICIAN CBE CURRICULUM

Curriculum Purpose: This competency-based education (CBE) curriculum has been developed so that the instructor may adapt any or all of its contents to accommodate his/her teaching style. The purpose of the CBE curriculum is to provide the instructor with a set of West Virginia validated EMT Tasks along with outlines, activities, evaluations, and suggested Alternative Learning Resources. Depending upon individual teaching style, the instructor may want to use this material primarily to assist him/her in developing teaching plans; or the material has been developed so that it may, with proper supervision, be used by the students. How this CBE curriculum is used is up to the instructor. It has been based on the best EMT information and material available in 1978-79 in West Virginia and the United States.

Curriculum Design: Each of the modules included in the course has been divided into a number of sections. The components of the modules are:

.Behavioral Objectives:	Skill Objectives Knowledge Objectives
Module Plan:*	Instructor Activities Instructional Equipment and Materials Student Activities with Skill Development Checklist Anatomy and Signal Code Handouts
Module Outline:	Instructor's Lecture Format
Demonstration Outline:	

* Instructor and Student Activities have Alternative Learning Resources listed.

Practice Sessions:

Skill Evaluations:

Tasks: With LOOPS (problem solving within each task)

A discussion of the contents of each of these components, as well as the use of each component, follows in the next section.

NOTE: In a few modules, certain parts of a curriculum may be omitted. Check the Table of Contents and the page numbers for specifics in each module.

MODULE COMPONENT DESCRIPTIONS

BEHAVIORAL OBJECTIVES

Each module contains a group of skills and knowledge objectives, each stated in behavioral terms (except for Module I: Orientation and Registration). These objectives contain all of the skills and knowledge which the student is required to master from the module by the end of the course. Skill objectives, as can be implied by the name, state the specific manipulative skills which must be possessed by the students. The knowledge objectives, on the other hand, consist of the knowledge the students must possess in order to display the skills.

It is suggested that each student be given a copy of the objectives at the beginning of the lesson. In this way, the student will know (1) what he/she is about to learn, and (2) what he/she will be evaluated on.

The behavioral objectives serve as a basis upon which evaluation of the student's skill and knowledge can be accomplished. The skill objectives are directly related to the demonstrations included in the module and the skill evaluation sheets which are used as a basis for evaluating the student. The knowledge objectives provide the instructor with the basis for paper and pencil tests appropriate to the module.

MODULE PLAN

1. Instructor's Activities: The activities stated in this section are those which must be performed by the instructor to insure that the student has met the specified objectives.

2. Instructional Equipment and Material: The equipment and materials are divided into four sections. Section (1) contains materials which are generally found in an educational facility, such as chalkboard, overhead projector, slide projector, filmstrip/cassette machines, screens, and anatomical simulators. Teaching aides (2) are medical materials required for a given module and should be obtained prior to the beginning of class. Student Handouts (3) and audiovisuals (4) needed to conduct the Module outline are listed so the instructor, while preparing for class, does not have to search through other materials to fully prepare classroom.

3. Student Activities: This student handout was developed so that the student would always have the assignments needed for each class in readiness. This allows the highly motivated student to work ahead on assignments. In reverse, it allows the slower student who needs to review material not to have to search for or neglect to do extra learning resources. All students will have well-defined activities to complete course objectives.

MODULE COMPONENT DESCRIPTIONS: CONTINUED

4. **Student Skill Development Checklist:**

This student sheet is an extension of the Student Activity Sheet. It is a checklist of skills (manipulative) to be completed by the student after practice sessions are completed. When the instructor starts a new module and the student has not completed all skills, this checklist allows for the student to return to any uncompleted module to finish developing skills. For the highly motivated student and/or a student who is proficient in advanced first aid, the checklist allows the student to go ahead on evaluations without practicing. This student can then proceed to the next module. EXAMPLE: A student holding a current American Heart Association CPR card may decide he/she does not need to spend time practicing manipulative skills, but does need to retest for accuracy. This student will be able to spend more time building skills in an area he/she is weakest in or in learning new skills.

5. **Anatomy Information Sheet Handouts:**

These handouts were prepared for enrichment of the student's knowledge of human anatomy. This subject matter is brief and not separately discussed in EMT text. This also allows the student to follow material during the Instructor's Lecture of Anatomy.

6. **Alternative Learning Resources:**

These are found on Instructor and Student Activity Sheets. This material is present for development of the slower student or for the student who wishes to spend more time on knowledge input.

MODULE OUTLINE

The content outline suggests the general topics to be covered during the proposed lecture. In addition, it contains suggestions where Anatomy handouts and Tasks with element parts and LOOPS may be of help in meeting the student's needs by correlating material being presented. There is also room left for input by individual instructors for adaption to their own teaching styles.

DEMONSTRATIONS

The demonstrations serve as standardized procedures which the instructor can use to present the required skills to the students. The demonstrations may be used at a time appropriate to the instructor's preference, although a suggested time of demonstration is included in the content outline. The instructor may wish to demonstrate a given skill during the lecture session, or he/she may wait until the end of the lecture to present the demonstration.

When performing the demonstrations, be sure that:
1. Every student can see.
2. Every specific direction is given during the procedure.
   EXAMPLE: A. Hand location
   B. Hand placement
   C. Movements
   D. Critical conditions which might arise

PRACTICE SESSIONS:

The practice sessions provide guides for dividing groups and assigning equipment so that all students are given an opportunity to practice the skills demonstrated. The instructor should monitor the students while they practice the demonstrated skills. At this time, the instructor will also be available to answer any questions the students may have concerning correct or incorrect procedures or specific situations which may arise. The instructor will be able to correct any errors that the students seem to be making during the practice sessions.

The practice groups should be rotated to assure that all students have had an opportunity to practice each of the required skills. Those students who are members of a group but not performing a specific function during a practice session should observe and comment on those students performing the skill. If the class is a large one, it is suggested that a group of students be directed to view Alternative Learning Resources listed on the Instructional and Student Activities sheets. It is suggested that the practice session equipment be set up prior to the beginning of the particular module being presented and in a location apart from where the lecture takes place. Thus, valuable class time will not be wasted in setting up for practical exercises.

SKILL EVALUATION:

Skill evaluation sheets are provided for use in evaluating the student's performance related to the specific skill objectives required in the module. The skill evaluation sheets provide checkpoints which the instructor should use to assure that the student is using the appropriate procedures and/or sequence. Skill evaluation sheets also provide a convenient method for feedback to the students concerning the particular problems they are encountering in performing any given skill and also for monitoring the progress of students in the attainment of the skill objectives. Each student will be given three opportunities to demonstrate the skill to the instructor's satisfaction.

The skill evaluation sheets should be used only after the students have had an opportunity to practice the skill under the supervision of the instructor. The skill evaluation sheets can be distributed to the students during or before the demonstration and/or the practice session. Thus, they can be used as a job aid during practice. However, they should not be used as job aids when the student is being evaluated. Satisfactory performance of a given skill is defined as correct performance of all steps in the proper sequence. Should a student omit a step or perform a step incorrectly, the skill has not been completed satisfactorily. Instructor judgment is required to define correct performance of a step.

TASK DESCRIPTIONS/LOOPS:

It is suggested that the instructor read the TASK descriptions prior to the introduction of the Module so as to assure that the methods and procedures used during the dmeonstrations are those which are preferred in the field. The TASK descriptions are a logical flow of the procedures one would normally use when providing a certain treatment and care to a patient. LOOPS are a logical flow of the procedure and treatments to be followed when a problem is recognized within a particular TASK.

Certain students find the use of the TASK descriptions valuable in their study. Others find them to be confusing. Thus, distribution of the task sheets to students should be optional and, in fact, is not necessarily recommended unless requested by the students. Students should be made aware that such descriptions do exist and might be given a copy to review in order to determine if such materials would be of value to them. Without an accompanying explanation by the instructor, experience has shown that most students will not recognize the value of the TASK and LOOP descriptions and will, therefore, not request them.

THE ADMINISTRATION OF AN EMT TRAINING PROGRAM

Certain steps should be taken to initiate, organize, and administer an EMT training program. These steps will assure that:

1. Community involvement and support are obtained.
2. Efforts are coordinated with all interested organizations.
3. The training program is not an unnecessary duplication.
4. The training facilities and equipment are appropriate.
5. Medical advice is obtained.
6. Qualified instructors are identified and obtained.

The required steps to initiate, organize, and administer an EMT training program are included in the following pages. The format used is that of a task description. In addition, a series of additional material provide additional information such as:

1. Instructor's schedule
2. Basic EMT training equipment
3. Basic EMT audio-visuals
4. Required texts and supplementary references

PROGRAM ADMINISTRATION

TASK I

ELEMENTS	EXPLANATION
	Assumes the school has been requested to conduct an Emergency Medical Technician (EMT) Training Program or has an interest in presenting such a program.
1. Appoint or assign one individual from the institution as the person responsible for COORDINATION OF THE PROGRAM. It is important that this individual have the authority to represent the institution and commit resources as necessary. This individual should be accessible to the student as well as the administration, since students (or potential students) may call the school to ask questions concerning all aspects of the program.	It is essential that there be one "contact person" within the school who understands all aspects of the program operation including: A. course content B. course schedule C. program goals D. program budget E. school policies This individual may attend community meetings concerning emergency medical services and may be requested to speak on behalf of the school's administration.
2. Determine if any other EMT training programs are being conducted in the area serviced by the school. (If no other local programs exist, go to Element #4.)	The existing programs must be examined to avoid the unnecessary duplication of services which may reduce the cost-effectiveness of both programs. Regional Office of Public Service Training may provide useful information concerning other course offerings.
3. Determine if other programs are meeting the demand for training by comparing the number of students being trained with the number of individuals requesting training.	EMT training programs may be conducted in: A. hospitals B. vocational-technical centers C. colleges Staff members of West Virginia OEMS may provide assistance in the identification of other course offerings. Assumes some number of potential students need and desire training.
4. Determine number of potential students that need and desire training immediately as well as the anticipated future demand for training.	Future training demands must be determined to establish a long-range plan for the continued operation and/or expansion of the program to include other courses.

PROGRAM ADMINISTRATION

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
Future demand may be projected by examining such things as: A. Personnel turnover rates of local ambulance providers B. Anticipated legislation affecting training requirements C. Anticipated operational changes in the EMS system	
5. Based upon the number of potential students who need training, determine if additional classes must be offered to meet that demand. (If no additional programs are needed, go to LOOP 1.)	If the number of students exceeding available resources is not large enough to warrant the costs of another complete program, an existing EMT program may be able to absorb the additional student load. This may be done by expanding class size and adding the necessary instructors or by offering another class at an alternate time using the same training aids. Assumes an additional EMT training program is needed.
6. If a regional or local EMS planning organization exists, all proposed EMT training plans should be discussed in depth with the appropriate staff member. The proposed EMT training program must be approved by the State Office of Emergency Medical Services and the Regional Office of Public Service Training to assure that proper certification is provided every student. The Regional Office of Public Service Training will schedule and assist in the administration of the state EMT examination at the end of the course.	Regional EMS councils or other planning organizations are often required to evaluate a proposed program and determine its acceptability. In making this judgment, the Regional agency is acting as a representative of the WVOEMS. If this approval is not obtained, any graduate of this program cannot be certified by the National Registry for EMTs and the WVOEMS.
7. Determine if the necessary funds are available to pay for training aids and instructor costs. This money may be either a part of the year's operating budget, or it may come through a separate grant or reimbursement system. (If funds are not available, go to LOOP 2.)	The direct costs incurred in the operation of this program are approximately $10,010.80 for training aids and $1,620.00 for instructors' salaries. (See page for instructor aids.)

PROGRAM ADMINISTRATION

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
8. Order training aids and books for 15 students; this is a minimum class load.	
9. Meet with area providers of ambulance service to discuss EMT training plans, and solicit their help and endorsement of the program.	Local ambulance personnel provide a valuable resource. Many of these individuals have been involved in emergency medical education programs for several years and may provide assistance in the following areas: A. procurement of additional training aids and equipment B. selection of potential EMT instructors C. selection of a course medical advisor D. publicity of the program E. public relations
10. Identify the population of potential instructors by seeking the assistance of local health planning agencies and employing the following criteria. The instructors of any EMT program must: A. Have recent critical or emergency care experience. B. Be totally familiar with all training aids involved in the program. C. Have instructional experience. D. Have a level of medical knowledge above that which is required in the basic level EMT-A program. E. Be either an M.D., R.N., A.R.I.T., Certified EMT, or other specialized professional. F. Certified by WV Department of Vocational Education.	EMT instructor corps are as diverse as the number of programs offered. Some programs are taught by laymen (EMTs). If the individual who is to teach an EMT course is able to meet the criteria listed, it is not important that he or she hold any particular occupational title. Any instructor (M.D., R.N., EMT, ARIT, etc.) must meet all the criteria listed. In many areas, it is not possible to find individuals who meet all the listed criteria and, in those cases, it may be possible to develop instructor teams which may have members that only meet one or two of the criteria. However, the combined resources and experiences of the team should provide the specialities and balance needed. Basic Life Support Instructors should be certified by the American Heart Association.
11. Prepare and circulate instructor applications and establish a deadline for their return as well as a date for the interviews of potential instructors.	An interview committee should be established that can review the medical/educational background of the potential instructor. It is essential that the school participate in the instructor selection.

PROGRAM ADMINISTRATION

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
12. Select a local physician as the medical director of the program. This physician should meet certain criteria, if possible. He or she should have: A. a definite interest in the improvement of emergency medical services B. recent critical or emergency care experience (e.g., full-time emergency room physician) C. a proven willingness to cooperate with the providers of ambulance services in the local area	The selection of a medical director is based upon recommendations of the Emergency Medical Services Committee of the National Academy of Sciences-National Research Council. It is the responsibility of the medical director to assure that the course meets the physician's subjective level of medical excellence. If the physician has actual recent emergency care experience in an ambulance or other appropriate areas, the probability is increased that his/her subjective evaluation will approximate an optimal level.
13. Meet with the selected physician and seek to gain his or her consent to function as the medical director of the EMT-A training program. Explain the obligations and responsibilities involved including: A. monitoring instructors B. observation of practical exercise sessions	The major involvement of the Medical Director will be during the early phases of the program; however, he or she must assure that the program continues to operate at a high medical level.
14. If the physician of choice is not able to function as a medical director, select another candidate. (Go to Element #12.)	
15. Complete the organization of the instructor interview committee by including the medical director of the program, if possible.	
16. Interview and select instructors for the EMT program and establish a date for an instructor information seminar.	
17. Conduct an instructor information seminar to explain the: A. schedule B. topics C. procedures	Even if the instructors selected have been involved in other EMT programs, they will need an orientation to acquaint them with the specifics of this program. The content of this program is not significantly different from

PROGRAM ADMINISTRATION

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
D. training aids available (see Basic EMT equipment and audiovisuals) E. simulation exercises to be conducted F. textbook and references (see required textbooks and supplementary references)	others; however, the organization and methods of delivery have been extensively modified.
18. Schedule all instructors for each class as shown in the class schedule, including all testing situations. (See instructors schedule.)	This schedule may change; however, it is better to begin with this schedule as a guide and make modifications as necessary.
19. Provide publicity for course offerings by creating the necessary news releases and providing them to the local news media.	Without accurate publicity, the EMT training program may be jeopardized. It is essential that all news releases be very clear and distinct and allow no misinterpretations.
20. Select the class location(s) and determine the best time period for class sessions.	The physical location of the class sessions must have an environment suitable for any education program (proper lighting, ventilation, seating, etc.). An EMT program requires additional unobstructed floor space for practical exercise. This area should be in close proximity to the lecture area. The selection of an appropriate day and time for class involves an awareness of the fact that most of all West Virginia ambulance attendants are volunteers. In the past, evening classes have been best (two nights per week at three hours per class). Two consecutive days (e.g., Wednesday and Thursday or Saturday and Sunday) are generally a poor selection since the students will require study time between sessions.
21. Circulate student applications to all providers of ambulance services in the area as well as to those specially requesting applications.	A list of local ambulance providers is available from a variety of health planning organizations and will serve as a base for the necessary mailing list.
22. Select students for the program and employ whatever selection policy	The individual ambulance groups may provide a list of priority personnel

PROGRAM ADMINISTRATION

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
will result in the best balance of training among a given number of local ambulance groups.	to be enrolled in a given class. If this type of list is provided and the number of openings is divided equally among all providers, the pressures of selection are removed from the accepting institution.
23. Select, with the assistance of the medical director, the hospital(s) to be employed in the in-hospital portion of the program.	
24. Meet with the administration, nursing, and medical staffs of the selected hospitals to explain the in-hospital aspect of the EMT program. Ask for permission to allow EMT students to observe certain medical tasks relating to their jobs in the field of emergency medical care. Five units of the hospital are to be observed by the students, if possible: A. Emergency Room B. Surgery C. Obstetrics D. Critical Care E. Psychiatric West Virginia requires written permission from the hospital administration prior to beginning of class.	Each hospital allows the EMT student to observe and/or perform a different percentage of the relevant tasks occurring in a hospital. This section of the course must remain somewhat flexible due to the involvement of the hospital(s). A checklist of tasks to be observed appears in Module I, Orientation and Registration. Some hospitals may require TB Tine test and/or chest X-ray before student may begin in-hospital aspect of EMT program.
25. Conduct the first class session employing the appropriate module plan.	
26. Monitor the instruction being given during the course of the program to be sure that the instructor is effective and is: A. following the lesson plans B. employing the proper practical exercises C. maintaining a schedule consistent with the original schedule established	

PROGRAM ADMINISTRATION

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
27. When scheduling the instructors for Module II, the primary instructor assigned should be certified as a CPR instructor by the American Heart Association (AHA).	This will provide the EMT students with certification by the AHA and will be an additional benefit to the program.
28. West Virginia students enrolled in an EMT course will take the National Registry Examination for EMTs.	The National Registry Examination is conducted when students have completed the 81 hour DOT EMT Course and have been recommended by the coordinator of the EMT class.
29. Determine the possible sources from which four wrecked automobiles can be obtained for use during Module IX, Extrication, by working through local providers of ambulance services. Windows and doors of those vehicles must be intact.	Individuals involved in providing ambulance service in the local area may have obtained automobiles for previous extrication programs and will provide valuable assistance in obtaining the necessary cooperation from local junk years, etc.
30. As the situation dictates, revise the instructor schedule throughout the program.	The Regional Public Service Training Coordinator will also monitor instruction; however, the program administrator (or designee) must also monitor the instructors.
31. Schedule the next class to be offered and disseminate applications. (Go to Element #2.)	

PROGRAM ADMINISTRATION

LOOP 1

ELEMENTS	EXPLANATION
	Assumes that no additional EMT training programs are needed to handle current or future demand.
1. Explain to the group or individual requesting training that no additional programs are needed based upon calculations of present and future demand.	Many groups request training from sources other than those which already exist because they may desire a program which is more convenient (e.g., a different day, time, or location). At times, these may be valid reasons for another training program, and at other times, they may not be valid reasons at all. This is a subjective judgment which must be made by the individual investigating the feasibility of a new training program.
2. If necessary, show requesting groups or individuals the current and projected demand figures and explain where training is available.	

PROGRAM ADMINISTRATION

LOOP 2

ELEMENTS	EXPLANATION
	Assumes areas of funding have been investigated and no funding appears to be available.
1. Discuss problem with requesting group to explain that funds must be obtained before a course can begin.	Local groups may be of assistance in obtaining the necessary funds.
2. Point out possible sources of funds for training.	Possible sources include: A. Tuition charges B. Department of Transportation C. Local government D. Local hospitals E. In kind equipment from ambulance providers, and/or hospitals F. State Department of Vocational Education

INSTRUCTORS' SCHEDULE

CLASS	DATE/TIME	MODULE TOPIC	INSTRUCTORS
1	________	REGISTRATION AND ORIENTATION	(2)________ * ________ **
2	________	BASIC LIFE SUPPORT AND PRIMARY SURVEY	(2)________ *** ________
3	________	BASIC LIFE SUPPORT AND PRIMARY SURVEY	(2)________ ________
4	________	BASIC LIFE SUPPORT AND PRIMARY SURVEY	(2)________ ________
5	________	BASIC LIFE SUPPORT AND PRIMARY SURVEY	(2)________ ________
6	________	SECONDARY SURVEY AND SHOCK	(2) ________ ________
7	________	SECONDARY SURVEY AND SHOCK	(2) ________ ________
8	________	SOFT TISSUE INJURIES	(2)________ ________
9	________	SOFT TISSUE INJURIES	(2)________ ________
10	________	CENTRAL NERVOUS SYSTEM TRAUMA	(2)________ ________
11	________	CENTRAL NERVOUS SYSTEM TRAUMA	(2)________ ________

* Regional Coordinator of Public Service Training

** Coordinator of EMT Class

*** Primary Instructor Certified by the American Heart Association

INSTRUCTORS' SCHEDULE

CLASS	DATE/TIME	MODULE TOPIC	INSTRUCTORS
12	______	ORTHOPAEDIC INJURIES	(2)______ ______
13	______	ORTHOPAEDIC INJURIES	(2)______ ______
14	______	ORTHOPAEDIC INJURIES	(2)______ ______
15	______	MEDICAL EMERGENCIES	(2)______ ______
16	______	MEDICAL EMERGENCIES	(2)______ ______
17	______	PATIENT HANDLING	(2)______ ______
18	______	PATIENT HANDLING	(2)______ ______
19	______	EXTRICATION	(2)______* ______
20	______	EXTRICATION	(2)______** ______
21	______	EXTRICATION	(2)______** ______
22	______	EMERGENCY CARE OF THE EMOTIONALLY DISTURBED	(2)______ ______

* Classroom lecture

** Class 20 and 21 may be held on the same date. This class could be held at a local junk yard if automobiles are not available at the classroom site.

INSTRUCTORS' SCHEDULE

CLASS	DATE/TIME	MODULE TOPIC	INSTRUCTORS
23	____________	EMERGENCY CARE OF THE EMOTIONALLY DISTURBED	(2)____________ ____________
24	____________	OBSTETRICS AND PEDIATRIC INJURIES	(2)____________ ____________
25	____________	OBSTETRICS AND PEDIATRIC INJURIES	(2)____________ ____________
26	____________	TRIAGE AND SPECIAL CARE SITUATIONS	(2)____________ ____________
27	____________	DISPATCH AND TRAVEL TO THE SCENE	(2)____________ ____________

NOTE: All classes are three (3) hour sessions.

BASIC EMT TRAINING EQUIPMENT

QUANTITY	ITEM	COST/ITEM	TOTAL
6	Blankets	16.00	96.00
1	Simulaid Moulage Kit	295.00	295.00
	Sandbags		
	(2) 12"	7.00	14.00
	(2) 36"	9.00	18.00
2	RPI Aluminum Foil	4.20	8.40
1	Complete Jump Kit	340.00	340.00
6	Disposable Ob Kits	7.50	45.00
1	Poison Antidote Kit	3.50	3.50
6	Stethoscopes	30.00	180.00
6	Sphygmomanometers	40.00	240.00
1	Instructor Stethoscope	30.00	30.00
	Bag-Valve Mask Unit with case		
	(2) Adult	92,00	184.00
	(1) Child	84.00	84.00
1	Portable oxygen tank with regulator (Type "E" Tank)	125.00	125.00
	Oxygen Masks		
	(10) Adult	1.09	10.90
	(10) Pediatric	.95	9.50
10	Oxygen Cannulas	.65	6.50
3	Portable Suction Units (Engine, Electric Vacuum or manual)	149.00	447.00
10	Thumb Control Suction Catheters	.95	9.50
2	Tongue Forceps	32.00	64.00
2	Airway sets--size 55mm to 115mm	11.00	22.00
1	Portable Demand Unit	250.00	250.00
3	Resusci Andy	425.00	1275.00
1	Resusci Baby	195.00	195.00
1	Recording Annie	995.00	995.00

BASIC EMT TRAINING EQUIPMENT

QUANTITY	ITEM	COST/ITEM	TOTAL
2	Emergency Fracture Splint Kits (1) Speedi-Trac with Ankle Hitch (1) Thomas Leg Splint--Adult (1) Thomas Leg Splint--Child (2) Sets of Thomas Slings--Velcro (2) Thomas Heel Rests (3) Pneumatic Balloon Splints (½) Dozen Wire Ladder Splints Assorted Straps for Ladder Splints (1) Standard Thomas Ankle Hitch with Swivel (1) Carrying Case	140.00	280.00
2	Air Splint Zipper Sets	52.00	104.00
3	Spine Board with Straps 72"		
3	Spine Board with Straps 32"		
	Padded Board Splints		
	(2) 15"	1.90	3.80
	(2) 36"	2.20	4.40
	(2) 54"	3.00	6.00
2 sets	Cervical Collars (Large, Medium, Small)	16.75	33.50
36	Multi-Trauma Dressings (12 per case)	29.00	87.00
3	Sterile Burn Sheets	5.55	16.65
36	4" Ace Bandages (12 per case)	19.30	57.90
36	3" Ace Bandages (12 per case)	14.80	44.40
36	3" Kling Bandages (12 per case)	4.70	14.10
36	Triangular Bandages	1.50	54.00
300	4" x 4" Sponges (100 per package)	3.05	9.15
6	Kold-Kompresses Packs (6 per package)	6.30	6.30
10	Hot-Kompresses Packs (10 per package)	11.30	11.30
5 doz.	1" Tape (12 per box)	12.30	61.50
5 doz.	2" Tape (6 per box)	12.30	123.00
6 pair	Bandage Scissors 7½"	8.00	48.00
1	Silver Swaddler	29.50	29.50

BASIC EMT TRAINING EQUIPMENT

QUANTITY	ITEM	COST/ITEM	TOTAL
1	OB Manikin with Infant	350.00	350.00
1	Organic Torso	365.00	365.00
1	Human Skeleton	395.00	395.00
1	Stair Chair with 4" wheels	170.00	170.00
1	Orthopaedic-Type Scoop Stretcher	185.00	185.00
1	Reeves Stretcher	90.00	90.00
1	Ambulance Cot, Multi-Level with Matress and Restraints	425.00	425.00
1	50 Foot Rope	23.00	23.00
2	Pry bars	19.00	38.00
1	10 Ton Porta Power and Duc[illegible] [illegible]aw	593.00	593.00
1	Windshield	35.00	35.00
	TOTAL		$8610.80

Check with your local Board of Education and/or Regional Offices of telephone companies for use of a teletrainer for Module XIII.

BASIC EMT AUDIO-VISUALS

SLIDES

Emergency Care Series, Units 1 to 10 (1975) by:

Robert J. Brady Company
Bowie, Maryland 20715

Cardiopulmonary Resuscitation: Units 1 to 7, American Heart Association (optional)

Auto Extrication Slides-Cassette:
Unit I Size-Up, Access Problems, Mercy Kit
Unit II Part 1 Specialized Tools
Unit III Part 2 Specialized Tools
Unit IV Moving Patients with Cervical Spine Injuries

Los Angeles City Fire Department (1974)
Distributed by Film Communicators
11136 Weddington Street
North Hollywood, California 91601
Telephone: 766-3747

FILMSTRIPS

The Heimlich Maneuver by Barbara Buce

Paramount Oxford Films
5451 Marathon Street
Hollywood, California 90033

Emergency Medical Series by Trainex:

Trainex Corporation
P.O. Box 116
Garden Grove, California 92642

Blood Pressure Program No. 367
Oxygen Administration Program No. 442
Management of the Burned Patient Program No. 1032
Emergency Eye Care Program No. PC 223
Skeletal and Muscular Systems Program No. 325**
Nervous and Cardiovascular System Program No. 326**
The Respiratory, Digestive, and the Special Senses System Program No. 327**
Methods of Artificial Ventilation Program No. 328**
Methods of Cardiopulmonary Resuscitation Program No. 329**
Environment Injuries Program No. 350**
Heart Attack, Stroke, Unconsciousness, and Communicable Disease Program No. 352**
Fractures and Splinting Program No. 393**
Injuries to the Head and Spine Program No. 394**
Moving the Sick and Injured Program No. 395**
Extrication of the Injured Program No. 396**
Medical Emergencies: Respiratory Distress, Acute Abdomen, and Acute Emotional Disturbance Program No. 392**

BASIC EMT AUDIO-VISUALS: CONTINUED

Major Wounds and Multiple Injuries Program No. 349**
Shock and Hemorrhage Program No. 348**
Pharyngeal Suctioning Program No. BN 270
Emergency Childbirth Program No. 351**

** These Trainex Corporation Emergency Medical Care Filmstrip programs have been reviewed by the Department of Transportation and determined complimentary to the D.O.T. basic training course...these programs are eligible for matching grant funds.

FILMSTRIPS

Basic Skills for the EMT by Emergency Training Inc. (1978)

Emergency Training, Inc.
181 Post Road West
Westport, Connecticut 06880

Taking this Course and Becoming a Good EMT, Unit 1
Taking and Using Diagnostic Signs, Unit 2
Primary and Secondary Surveys and Triage, Unit 3
Respiratory and Circulatory Systems, Unit 4
Artificial Ventilation, Obstruction, and Oxygen Support, Unit 5
Cardiopulmonary Resuscitation, Unit 6
Wounds, Control of Bleeding and Shock, Unit 7
Basic Bandaging Skills, Unit 8
Using Traction Splints, Unit 11
Immobilizing Neck and Back Injuries, Unit 13
Injuries of the Head, Eye, Mouth, and Face, Unit 14
Injuries and Problems of the Chest, Abdomen, and Genitalia, Unit 15
Medical Emergencies, Unit 16
Childbirth, Unit 17
Environmental Injuries, Unit 18
Treatments for Poisons, Stings, Drugs, and Alcohol, Unit 19
Driving the Ambulance Safely, Unit 20

FILMS: 16mm

Life or Death by Film Communicators

Ambulance Run by Film Communicators

Film Communicators
11136 Weddington Street
North Hollywood, California 91601

Revised, New Pulse of Life by Pyramid Film

Pyramid Film
Box 1048
Santa Monica, California 90406

BASIC EMT AUDIO-VISUALS: CONTINUED

Fractures and Dislocations by U. S. Department of Interior, MESA

Burns and Scalds By U. S. Department of Interior, MESA

Open and Closed Wounds by U.S. Department of Interior, MESA

REQUIRED TEXTS AND SUPPLEMENTARY REFERENCES

REQUIRED

Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company. (1978), 2nd Edition

Emergency Care, Self-Instructional Workbook, J. David Bergeron, Robert J. Brady Company. (1978), 2nd Edition

REFERENCE TEXTS

Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries, (American Academy of Orthopaedic Surgeons) (1975), 2nd Edition

Human Function and Structure, by Dorothy S. Laciano, Ph.D., Arthur J. Vandes, M.D. and James H. Sherman, Ph.D., McGraw-Hill, (1978)

Basic Life Support Skills Manual, by Charles Phillips, M.D., Robert J. Brady Company. (1977)

Advanced First Aid and Emergency Care, The American National Red Cross. (1973)

Vehicle Rescue, by Harvey Grant, Robert J. Brady Company, (1975)

Basic Emergency Medicine, by Robert H. Miller and James R. Cantrell, (1975). C. V. Mosby Company

On Death and Dying, by Elisabeth Kubler-Ross, M.D., (1969). MacMillan Publishing Co., Inc.

Death, Society and Human Experience, by Robert J. Kastenbaum, (1977). C. V. Mosby Company

Psychotropic Drugs, A manual for Emergency Management of Overdosage, by Nathan S. Kline, M.D., F.A.C.P., Stewart F. Alexander, M.D., F.A.C.P., and Amparo Chamberlain, R.N., (1974). Medical Economics Company, Oradell, New Jersey

PERIODICAL REFERENCES

Standards for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC), Supplement, JAMA, Vol. 227, No. 7, February 18, 1974

The Role of the Emergency Medical Technician in the ER, by Steve Miller, EMT, Emergency Medical Services, January/February, (1977)*

What is an EMT?, by Brevard County Association of Registered Emergency Medical Technicians, Emergency Product Magazine

Management of Spinal Cord Injuries, by Robert R. Jackson, M.D., Emergency Care, April (1978)

PERIODICAL REFERENCES: (cont.)

Are You a Caring Professional?, by Joseph A. Graftt, Emergency Medical Service. (1978), June

Thank You Young Man--I'm Richer for Knowing You by Nancy Crater, R.N., Emergency Product News, (1977). August

Manual for Instructor-Trainers and Instructors of Basic Cardiac Life Support, American Heart Association

Lifeway Obstruction--Try Just a Little Harder, by Gregory B. Camp, M.D., Emergency Product News, September/October, (1976)

Sudden Infant Death Syndrome (SIDS), U.S. Department of Health, Education and Welfare, (1972)

When You're Out of Circulation, by James Heckman, M.D., Emergency Product News, August (1977) Pages: 14 to 16

Shock, A General Discussion, by Richard K. White, M.D., Emergency Product News, August (1977)

Traumatic Shock, by Norman E. McSwain, M.D., Emergency Product News, August, (1977)

Cardiogenic Shock, Interference with Man's Life Sustaining Pump, by Carl T. Nolte, M.D., and Paul Rosenstock, M.D., Emergency Product News, August, (1977)

Shock Management, Case Studies, by Mary Beth Skelton, R.N., Emergency Product News, August, (1977)

Shock in the Pediatric Patient, by John G. Raffensperger, M.D., Emergency Product News, August (1977)

Burns, by Claudella A. Jones, R.N., Irving Feller, M.D., Journal of Emergency Nursing, May/June, (1975)

Blunt Trauma: The Treacherous Killer, by W. Carl Gordon, M.D., F.A.C.S., and Wayne Cowan, Emergency Product News, August, (1977)

Emergency Management of Traumatic Amputations, by James Heckman, M.D., Emergency Product News, April (1977)

The Spine, by Margot Kopsides Phillips, The Journal of Emergency Care, April, (1978)

Management of Cervical Spine Fractures Using Gardner-Wells Tongs, by George T. Anast, M.D., The Journal of Emergency Care, April, (1978)

Standards and Criteria of Care for Spinal Cord Injured Persons, by the New England Spinal Cord Injury Foundation, Inc.

REQUIRED TEXTS AND SUPPLEMENTARY REFERENCES

PERIODICAL REFERENCES: (cont.)

Physical Assessment of Long Bone Fractures, by George T. Anast, M.D., Emergency Product News, January/February, (1977)

Emergency Management of the Maxillofacial-Injured Patient, by James M. Landeen, M.D., The Journal of Emergency Care, June, (1978)

Emergency Treatment of Insect Stings and Bites, by Claude A. Frazer, M.D., P.A., Emergency Medical Services, April, (1978)

Triage, by Wayne Cowan, Emergency Produce News, April (1976)

Automobile Accident Occupant Injuries, by J. K. Sims, M.D., Roy J. Ebisu, Randolph K. M. Wong, Livingston M. F. Wong, M.D., (Reprints: J. K. Sims, M.D., Emergency Medical Services Program, Hawaii, 1301 Punchbowl Street, Honolulu, Hawaii 96813)

Extrication is but 1 of 10 Phases of Vehicle Rescue System, by Harvey Grant, Senior Instructor, Delaware State Fire School

Emergency Childbirth, by U.S. Department of Defense and U.S. Department of Health, Education and Welfare. U.S. Government Printing Office, (1970) # 0-411-132

Infection Potential of Emergency Medical Equipment, by Matthew P. Maley, MS., The Journal of Emergency Service, July (1978)

SUPPLEMENTARY

The materials listed provide additional resources for those individuals responsible for course administration and instruction. Due to the large number of available publications, this list represents only a small percentage of the large number of available and useful publications in print at this time.

MEDICAL MATERIALS

American Lung Association. 1973 Introduction to Lung Diseases, 5th Edition

American Medical Association. 1967 The Wonderful Human Machine

American National Red Cross. 1973 Swimming and Water Safety

Committee on Ambulance Design Criteria, U.S. Department of Transportation, National Highway Traffic Safety Administration. 1973

Huszar, Robert J. (1974) Emergency Cardiac Care. Robert J. Brady Company, Bowie, Maryland

International Association of Laryngectomees, American Cancer Society. (1971). First Aid for Laryngectomees.

REQUIRED TEXTS AND SUPPLEMENTARY REFERENCES

SUPPLEMENTARY: (cont.)

Knott, D. H., Beard, J. D., and Fink, R. D. (1974) "Acute Withdrawal from Alcohol." Emergency Medicine. Vol. 6., No. 2: Pages 87-96

Lipscomb, Wendell R. (1974) "Acute Paranois." Emergency Medicine. Vol. 6, No. 2: Pages 268-277

U.S. Bureau of Mines. (1971) First Aid for the Mineral and Allied Industries. Revised, Washington, D.C., U.S. Bureau of Mines

U.S. Department of Health, Education and Welfare. August, (1972). Emergency Medical Services Communications Systems. Rockville, Maryland: DHEW Publication No. (HSM) 73-2003

U.S. Department of Transportation, National Highway Traffic Safety Administration. Basic Training Program for Emergency Medical Technicians, Instructors, Lesson Plans. Washington, D.C. (1971)

EDUCATIONAL MATERIAL

Writing Objectives for Improved Instruction, by Dr. James Garvey, and Dr. Richard Brautigam. by Career Aids, Inc., 8950 Lurline Ave., Dept. T-4., Chatsworth, California 91311

How to Teach Tasks, Skills and Concepts, by Jerome Epstein, MA. Career Aids, Inc.

PERIODICALS

Emergency Cardiac Assessment, by Thomas M. Madayag, Jr., BA, RN, CVNS, MED., Emergency Medical Service, September/October, 1978

Pediatric Management of the Limping Child, by Willis A. Wingert, M.D., Emergency Medical Services, September/October, 1978

MODULE I

ORIENTATION AND REGISTRATION

REGISTRATION AND ORIENTATION

INSTRUCTOR ACTIVITIES

In order for the instructor to prepare and conduct EMT class, the instructor will:

1. Schedule classes with Regional Public Service Training Coordinator.
    - A. Regional Public Service Training Coordinator
        - (1) Schedule classes with the West Virginia Office of Emergency Medical Services (WVOEMS)
2. Schedule classroom space with local Vocational Technical or Career Center.
3. Prepare and distribute:
    - A. Student Skill and Knowledge Objectives
    - B. Student Activity sheets
    - C. Handouts--Anatomy
    - D. Student Development Checklist
    - E. Task and LOOP sheets
    - F. Textbooks and workbooks
    - G. Class Schedule:
        - (1) Dates
        - (2) Time
        - (3) Place
    - H. Hospital Critical Care and Emergency Room Checklist

NOTE: Handouts A,B,C,D,E,G and H can be found in a Student Handbook to be distributed during this Module. It will contain all Modules being presented during this 81 Hour EMT Course. The Student Handbook is optional.

This module is planned for 3 hours. The lecture presentation will be divided between the Public Service Training Coordinator and the EMT Program Coordinator. The lecture will involve the use of filmstrips, 16 mm film and handouts. The content of the lecture is specified in the Module Outline.

A. The Public Service Coordinator will provide the official forms to be completed for registration and participation in the EMT Class, as required for West Virginia.

B. Film: Life or Death, 16 mm, by Paramount, Oxford Films.

C. Filmstrip: Taking This Course and Becoming a Good EMT, by Emergency Training Inc.

D. The EMT Program Coordinator will provide and supervise the completion of the local Vocational Technical Center/Career registration applications.

E. The Public Service Training Coordinator will provide and discuss the West Virginia Final Practical Scenario, study guide.

F. Handouts:

(1) Good Samaritan Law of West Virginia
(2) Emergency Room Checklist
(3) West Virginia Practical Scenario

G. References:

(1) Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 33-48.
(2) Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 2-22.
(3) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons), (1975). 2nd Edition. Pages: 1-7, 9-14.
(4) The West Virginia Bureau of Vocational, Technical and Adult Education, T.A. Welty, State Coordinator of Public Service Education, Charleston, West Virginia
(5) Vehicle Rescue, by Harvey Grant, Robert J. Brady Company, (1975). Pages: 44-52.
(6) The Role of the Emergency Medical Technician in the ER., by Steve Miller, EMT., Emergency Medical Services, January/February, (1977). Pages 40-50.
(7) What is an EMT? By Brevard County Association of Registered Emergency Medical Technicians, Cocoa Beach, Florida. Emergency Product Magazine.
(8) Are You a Caring Professional? By Joseph A. Graftt. Emergency Medical Service, (1978). June.
(9) Thank You Young Man--I'm Richer for Knowing You, by Nancy Crater,RN. Emergency Product News, August. (1977).

4. Students should be instructed to review material on Student Activity sheet, Module I, REGISTRATION AND ORIENTATION. The student should then proceed to Module II, BASIC LIFE SUPPORT AND PRIMARY SURVEY, before the next regularly scheduled class.

REGISTRATION AND ORIENTATION

STUDENT ACTIVITIES SHEET

1. The student will be responsible to cover all material assigned.

NOTE: This module will be the only Module during the course to have the lecture and activities prior to student assignments.

   A. Read Knowledge and Skill Objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978) 2nd Edition. Pages: 33 to 48.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978) 2nd Edition. Pages: 9 to 22.

2. Review dates of all classes and prepare to be present. If absence from class is unavoidable, the student will be responsible to notify instructor and be prepared to cover material presented during absence.

REMEMBER: Material and skills not developed may decrease ability to give life-saving care and/or ability to pass Final Examination.

REGISTRATION AND ORIENTATION

INSTRUCTIONAL EQUIPMENT AND MATERIAL

Equipment

Teaching

Chalk and chalkboard
Screen
Film Projector 16 mm.
Filmstrip/Cassette Maching
Overhead Projector (optional)

Medical (optional)

Wheelchair
Hospital Stretcher with:
- Restraints
- Trendlenburg position
- Fowlers position
- IV Pole
- Side rails

Handouts

Textbooks/workbooks: Emergency Care, by Harvey Grant and Robert Murray, Emergency Care, Self-Instructional Workbook, by J. David Bergeron, 1978, 2nd Edition. Robert J. Brady Company
Student Handbook (optional) or
Task sheets/LOOPS
Skill Development Checklists
Skill and Knowledge Objectives
Anatomy Handouts:
Student Activity Sheets
Hospital Checklist
West Virginia Final Practical Study Guide
Class Schedule
Good Samaritan Law of West Virginia

Audiovisuals

Film: Life or Death, Paramount, Oxford Films, 16mm.
Filmstrip: Taking This Course and Becoming a Good EMT, by Emergency Training, Inc., Unit 1

REGISTRATION AND ORIENTATION

LECTURE TOPICS	REFERENCES

- I. The Emergency Medical Services System
  - A. Participants
    - 1. Police Departments
    - 2. Fire Services
    - 3. Rescue Services
    - 4. Ambulance Services
      - a. volunteer
      - b. private
    - 5. Office of Emergency Service
    - 6. Mining industry
    - 7. Hospital Critical Care Units
    - 8. Hospital Emergency Room
  - B. West Virginia's Responsibility
    - 1. West Virginia Department of Health
      - a. office of Emergency Medical Services
    - 2. County Commissioners
      - a. facilities improvement
      - b. vehicle improvement
      - c. software reimbursements
    - 3. West Virginia Department of Vocational Education
      - a. training
      - b. instructional methodology
      - c. EMT instructor
        - (1) certification
  - C. Registration
    - 1. West Virginia Office of Emergency Medical Services
    - 2. The National Registry of Emergency Medical Technicians

REGISTRATION AND ORIENTATION

LECTURE TOPICS	REFERENCES
3. Local Vocational Technical Center/Career Center	
4. Regional Vocational Public Service Training Coordinator	
5. Member of a local emergency or fire department	
D. Legal Aspect	
1. Age of EMT--West Virginia	
a. 18 years old	
2. Good Samaritan Law of West Virginia	Input from Prosecuting Attorney
3. Malpractice Insurance	
E. Certification	
1. Successfully pass National Registry Examination	
2. Successfully pass WVOEM Practical Senarios of practical skills	(WVOEMS) West Virginia Office of Emergency Medical Service
Show and Critique film: 16mm *Life or Death*	
II. Success as an EMT	
A. Characteristics (individual)	
1. Self-control	
2. Confidence	
3. Cooperation	
4. Ambition	
5. Sincerity	
6. Skill	
7. Integrity	
8. Friendship	

REGISTRATION AND ORIENTATION

LECTURE TOPICS	REFERENCES
9. Initiative	
10. Reliability	
11. Poise	
12. Patience	
13. Success	
B. Readiness of Crew	
C. Personnel Organization	
D. Chains of Command	
E. Leadership	
F. Personal Safety	
1. Hazards	
2. Protective clothing	
3. OSHA	
G. Training	
1. Initial	
2. Reviews	
3. Recertification	
Show and Critique filmstrip: Taking This Course and Becoming a Good EMT	
III. Class Content	
A. Review Module Topics	
1. Modular Components	Student Handbook (optional)
a. student skill objectives	
b. student knowledge objectives	
c. student activity sheets	
d. student development checklist	
e. anatomy handouts	
f. task and LOOP sheets	
g. practice and skill evaluation	(optional)

REGISTRATION AND ORIENTATION

LECTURE TOPICS	REFERENCES
2. Lecture Sessions	
3. Instructors Demonstrations	
4. Student Practice Sessions	
5. Student Evaluation Sessions	
a. written criterion	
b. practical evaluation	
6. Alternative Learning Resources	
IV. Hospital Clinical Experience	
A. Review Knowledge Objectives	
B. Discuss scheduling for hospital experience	
C. Hospital Training Task Sheet	Task I
D. Emergency and Critical Care Skill Checklist	
E. Hospital Ethics	
F. Dress Code for EMT Hospital Experience	
G. Use of Wheelchair and Hospital Stretcher	

ORIENTATION AND REGISTRATION

IN-HOSPITAL TRAINING

KNOWLEDGE OBJECTIVES

After participating in the In-Hospital portion of the training, the student will demonstrate the following:

1. All required checklists will be completed, indicating that the student has participated in observing each required area of the hospital.

2. While observing in the Emergency Room, the student will observe at a minimum (as indicated by checks on the checksheet):

   A. Entry port
   B. Layout of Emergency Room
   C. Two-way radio communication system
   D. Defibrillation
   E. I.V. tray tubing, needles, catheters, tourniquets
   F. Laryngoscope
   G. Endotubes
   H. Admission of a patient
   I. Treatment in Emergency Room
   J. Disposition of patient

3. While observing in the Critical Care Units, the student will observe at a minimum (as indicated by checks on the checksheet):

   A. Monitoring station
   B. Observe patient

NOTE: Optimally, the student observes all items included in the checklist. However, local hospital rules may allow much less freedom of movement and involvement by the student. Where applicable, additional objectives can be added to meet the local situation.

ORIENTATION AND REGISTRATION

IN-HOSPITAL TRAINING

INTRODUCTION

The in-hospital training portion of the program is designed to provide the student with an opportunity to become familiar with the local hospital, its layout, personnel, and the equipment which is available for use in caring for patients. Local hospital rules will affect the content of this portion of the training program, and for this reason only general knowledge objectives are included. A detailed set of checklists are included to identify the possible experiences which could be gained from this module.

It is suggested that arrangements for the in-hospital portion of the training program be made prior to the beginning of the course. The following task description suggests the steps necessary to prepare for in-hospital training.

ORIENTATION AND REGISTRATION

Emergency Medical Technician Trainee
Emergency Room Checklist

Date: ______________________

Name: ______________________

Class: ______________________

Rescue Company: ______________

Content

Please check whether or not you observed any of the following.

Observation	Observed
Physical environment	
See entry port	
See layout of Emergency Room	
See Waiting Area	
Equipment	
Two-way radio communication system	
Emergency Room bed - Use - Placement of patient in shock position	
Crash cart	
Defibrillator - portable	
I.V. tray tubing, needles, catheters, tourniquets	
Cardiac arrest record	
Laryngoscope	
Endotubes	

Emergency Room Checklist
(Continued)

Observation	Observed
Bag-valve mask unit	
Intravenous fluids	
O_2 tank valve - large portable - small for patient tranport	
Respirator	
Suction machine and catheters	
EKG Evaluation	
Lead II monitor	
Patient teaching prior to and during the procedure	
Positioning of the patient for the procedure	
Exposure of the patient	
Electrode placement and use of the electrode paste	
Lead II strip	
Use of 12 lead - explanation	
Supplies	
Suture sets	
Catheter tray (Foley)	
Admission of Cardiac Patient	
Physical exam - may take vital signs	

Emergency Room Checklist
(Continued)

Observation	Observed
History	
Venipuncture with I.V. infusion	
Family support	
Administration of I.V. medications	
Lab technician withdrawing blood	
Transfer of patient to coronary care	
Emergency Admission	
Physical examination	
Listen to lung sounds	
Listen to heart sounds	
Listen to bowel sounds	
History - Assist with data gathering, if possible	
Watch the drawing of specimens - Urine, blood	
Process of making diagnosis	
Use of oxygen	
Treatment in case of pain	
Criteria for admission or discharge	

Emergency Room Checklist
(Continued)

Observation	Observed
Procedure for and evaluation of an unconscious patient	
Information resources	
Diagnostic evaluation neurological signs	
Use or non-use of Foley catheter	
Airway maintenance	
Suctioning of patient	
How? When? Where? Why?	
Observe treatment of bleeding patient external vs. internal	
Observe treatment of fractures and lacerations	
Diagnosis	
Cleansing	
Management	
Observe cast application, if possible	
Observe splint application, if possible	
Observe suturing of lacerations	
Care and treatment of patient's family	
Hospital Personnel-patient (family) rapport	

Emergency Room Checklist
(Continued)

Observation	Observed
Hospital Personnel-police rapport	
Hospital Personnel-physician rapport	
Hospital Personnel-ambulance attendant rapport	
Special procedures with child patient	
Management of the child's family	

ORIENTATION AND REGISTRATION

Emergency Medical Technician Trainee
Critical Care Units - ICU, CCU

Date: ____________________

Name: ____________________

Class: ____________________

Rescue Company: ____________________

Content

Please check whether or not you observed any of the following.

Observation	Observed
ICU - Observe the admission of a patient if this is possible. During an admission, please take note of the nurse's assessment sheet, nursing process of obtaining history, as well as the nurse's physical evaluation of the patient.	
Listen to a patient's heart sounds (nurse or M.D. to explain)	
Listen to the patient's lung sounds (nurse or M.D. to explain)	
Check the patient's ankles for edema (nurse to show)	
Watch an intravenous infusion, set up and started	
Notice the care taken in regulation of fluids	
Notice the difference in a large drop veniset and a small drop veniset	
Environment	
Notice location of nurse's station to patient	
Notice location of master monitoring console to nurse's station	

Critical Care Units - ICU, CCU
(Continued)

Observation	Observed
Notice monitor and its rate alarm system. Nurse will demonstrate its operation	
Airway	
Use of	
If snorting or snoring, observe nurse's action	
Use of endotube	
Suctioning of endotube (Do not do this)	
Removal of airway - How? When?	
Removal of endotube - How? When?	

Stay in Operating Room only one hour, then move to Recovery Room

Observation	Observed
Recovery Room - Observation	
Physical environment and equipment	
Suction equipment	
O_2 equipment	
Blood Pressure apparatus	
Recovery room bed	
Intravenous fluid tracts (poles)	

Critical Care Units - ICU, CCU
(Continued)

Observation	Observed
Airway	
If snorting or snoring, observe nurse's action	
Patient Observation	
Unconsciousness	
Talk to patient	
Give command (e.g., "Squeeze my hand")	
Eye-lid reflex	
Respiration - with and without airway	

ORIENTATION AND REGISTRATION

Emergency Medical Technician Trainee
Cardiac Arrest Check List

Date: ______________________

Name: ______________________

Class: ______________________

Rescue Company: ______________

Content

Please check whether or not you observed any of the following.

Observation	Observed
Maintenance of Airway	
Do mouth-to-mouth - under supervision	
Insert airway if possible (if patient dies, practice airway insertion)	
Use of positive pressure bag	
Observe intubation	
Time factor	
Equipment use	
Maintenance of circulation	
Do cardiac compression - under supervision	
Check for carotid pulse during massage	
Check for femoral pulse during massage	
Take patient's blood pressure during procedure	
Insertion of I.V. catheter	

Cardiac Arrest Check List
(Continued)

Observation	Observed
Administration of fluids	
Administration of drugs	
What drugs are used	
Notice system of visiting hours	
Pick a patient and ask the nurse about:	
Patient's condition	
Patient's treatment	
Nursing management	
Patient teaching as well as family teaching	
Projected length of stay in Coronary Care	
Anticipated transfer plans	
Use of Pacemaker	
Equipment used	
Electrodes	
Cut down into vein and electrode placement	
Attachment of electrode to pacemaker	
Pacer effect on heart action	

ORIENTATION AND REGISTRATION

Emergency Medical Technician Trainee
O.B. Department - Observations

Date: ______________________

Name: ______________________

Class: ______________________

Rescue Company: ______________

Content

Please check whether or not you observed any of the following.

You will be called to observe a delivery. If there are Emergency Medical Technician Trainees in the house, they will have first change to observe a delivery. Your unit will be called, and you will be asked to come to the O.B. Department for observation.

If there are no deliveries and you have been assigned to this department, [illegible] should see the following:

Observation	Observed
Physical Environment	
Labor Room	
Scrub Room	
Delivery Room	
Nursery	
Equipment and Supplies	
Fetal monitor	
Isolette	
Bilirubin light	

O.B. Department - Observations
(Continued)

Observation	Observed
CPR equipment for infant	
Endotubes	
Laryngoscope	
Scalp vein needles	
Solutions and drugs for intravenous use	
Delivery table	
Forceps	
Umbilical Clamps	
Syringe for mouth and nose evacuation	
P.K.U. test	
Documents - birth registration	
Silver nitrate solution	
Patient Observation	
Delivery	
Sterile technique	
Draping of patient (sterile field)	
Vaginal examination	

O.B. Department - Observations
(Continued)

Observation	Observed
Observe delivery of anesthesia during contractions	
Incision (episotomy)	
Suctioning of mouth and nose of baby	
Clamping of umbilical cord	
Delivery of afterbirth (placenta) - examine placenta	
See M.D. suturing the incision	
See nurse massaging uterus	
Newborn observation	
Observe admission process of newborn	
See silver nitrate drops put in eyes	
Bathing - see cheesy substance on baby (vernix)	
See taking rectal temperature	
Note the cry and color of a newborn	
Observe mother's and father's response to birth	
Note shape of baby's head on delivery	
Note sucking reflex of baby	
Note M.D.'s examination of newborn	

ORIENTATION AND REGISTRATION

Emergency Medical Technician Trainee
O.R. & Recovery Room Checklist

Date: ______________________

Name: ______________________

Class: ______________________

Rescue Company: ______________

Content

Please check whether or not you observed any of the following.

Change into appropriate scrub suit, mask, and boots. Position yourself in Operating Room according to guidance of supervisor or nurse.

Do not touch anything unless directed to do so.

If you feel faint, leave room and lower head.

Where is the crash cart located?

Observation	Observed
Observe - Receiving of Patient	
Helping patient onto operating table	
Draping patient	
Venipuncture and insertion of intravenous catheter	
Administration of anesthesia	
Intubation of patient	
Preparation of skin	
Sterile technique	
Incision	

O.R. & Recovery Room Checklist
(Continued)

Observation	Observed
Physician-nurse relationship and role	
Closing of wound if time permits	
Use of monitor	
Transfer of patient to Recovery Room	
Hemorrhage	
Check dressing with registered nurse	
Taking blood pressure	
Urinary output - measure	

Family-Nurse-Patient Contact or Special Considerations

Observation	Observed
Charting and Nurse Observations	
Use of Chest Tubes - If none in Recovery Room, Check Surgical Intensive Care before you leave	
Placement of chest catheters	
Dressings around chest catheters	
Measurement of drainage	
Bubbling of water	

O.R. & Recovery Room Checklist
(Continued)

Observation	Observed
Use of suction vs. straight drainage	
Stripping chest tubes	

ORIENTATION AND REGISTRATION

TASK I

IN-HOSPITAL TRAINING

ELEMENTS	EXPLANATION
1. Identify hospitals which might be used as sites for the in-hospital training sessions.	Hospitals considered should be within the local area and served by the ambulance attendants attending the class. In this way, a rapport between the hospital staff and the ambulance attendants can be created, leading to an emergency medical services team approach.
2. With assistance of the Medical Advisor, select the best hospital(s) to be used.	Among the selection criteria to use are the presence of: 1. Emergency Room 2. Critical Care Unit(s) 3. Obstetrics Unit 4. Surgical Unit 5. Psychiatric Unit
3. Meet with hospital administrator and staff to outline objectives of the module. At this meeting determine the hospital staff person who will act as the contact individual.	A review of the checksheets at this point will clarify for all concerned the expected maximum experiences for the student. In addition, a schedule of when the in-hospital module will be held should be discussed.
4. Prepare in conjunction with hospital contact person a set of rules and procedures governing such things as: A. dress B. sign-in and out C. conduct D. off-limit areas E. procedures for scheduling experience	
5. Hospital contact person conducts class lecture concerning introduction of hospital procedures and the rules and procedures to be used by students.	Student scheduling should be flexible since many hold down full-time jobs.
6. Instructor should collect completed checklists from students.	This can be done by placing a box at the sign-out location for the student into which completed forms can be placed.

MODULE II

BASIC LIFE SUPPORT AND PRIMARY SURVEY

BASIC LIFE SUPPORT AND PRIMARY SURVEY

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the student will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80 percent of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given the steps of the primary survey of a single patient arranged in various sequences, the student will be able to identify the correct sequence.

2. Given the steps in the pathway from life to death arranged in various sequences, the student will be able to recognize the correct sequence.

3. Given a description of each of the following conditions:

   A. Clinical death
   B. Biological death
   C. Cyanosis

   the student will be able to recognize the label associated with each description from a list of labels.

4. Given that a patient is in cardiac arrest and a list of diagnostic signs, the student will be able to identify the sign that is a necessary and sufficient sign to conclude that a patient is in cardiac arrest.

5. Given that a patient's rhythmic heart function has stopped and a list of times in minutes, the student will be able to recognize the minimum amount of time it takes before the brain cells begin to die after heart activity stops.

6. Given a list of internal organs, the student will be able to recognize the organ which contains tissue most susceptible to oxygen deficiency.

7. Given a situation describing an adult patient's condition as unconscious and pulseless for three minutes and a list of conclusions and activities, the student will be able to identify the correct conclusion and appropriate activities to be performed.

8. Given a list of procedures to maintain a patent airway, the student will be able to distinguish between those procedures which are to be used when a cervical spine injury is suspected or is not suspected.

9. Given a list of steps used in establishing an airway, the student will be able to recognize the first step in establishing an airway both for an adult and an infant when a cervical injury is and is not suspected.

10. Given a list of head positions, the student will be able to recognize the position that is most likely to cause an airway obstruction in the adult and infant.

11. Given a list of procedures to remove solid material in an airway, the student will be able to identify the procedure that should be used first.

12. Given a list of procedures to maintain an airway of an individual with a suspected cervical spine injury, the student will be able to identify the correct sequence.

13. Given a list of methods of artificial ventilation, the student will be able to recognize the technique that is superior to all others, where superior is defined as the technique which:

    A. Delivers adequate oxygen to the patient
    B. Is less susceptible to mechanical failures
    C. Is relatively easy to perform

14. Given a list of errors committed when performing mouth-to-mouth ventilations, the student will be able to recognize three of the most common errors.

15. Given a description of a patient's condition (during mouth-to-mouth resuscitation) and a list of actions, the student will be able to recognize the correct action. Possible conditions include:

    A. A patient with a fractured jaw or severe facial injury
    B. A patient with a laryngectomy

16. Given a list of sizes of breath, the student will be able to recognize the correct size breaths in administering mouth-to-mouth to:

    A. An average adult
    B. An infant or small child

17. Given a list of the number of ventilations per minute, the student will be able to recognize the correct number of ventilations used per minute when artificially ventilating:

    A. An average adult
    B. An infant or small child

18. Given a list of number of breaths, the student will be able to select the number of breaths to be delivered in the first ventilations when initiating cardiopulmonary resuscitation in an unwitnessed cardiac arrest situation.

19. Given a list of arteries, the student will be able to identify the artery which is easily accessible and proximal to the heart.

20. Given a list of the steps involved in cardiopulmonary resuscitation arranged in various sequences, the student will be able to select the correct sequence.

21. Given a list of bones, structures, and a description of the location of a bone and/or structure, the student will be able to recognize the correct bone and/or structure that the description locates. The description will locate the following bones or structures:

    A. Sternum
    B. Xiphoid process
    C. Spine

22. Given a list of bones and/or structures, the student will be able to recognize the two bones and/or structures between which the heart is squeezed during compressions

23. Given lists of hand positions, methods of applying pressure (location of hands and fingers), and depths of chest compressions, the student will be able to select the correct hand positions, method of applying pressure, and depth of chest compression (in inches) for:

    A. An average adult
    B. An infant
    C. A small child

24. Given a list of incorrect hand positions, methods of applying pressure (location of hands and fingers), and depths of chest compressions, the student will be able to recognize from a list the results of such incorrect methods (e.g., given that the hands are placed below the sternum, the student will be able to recognize from a list of items that the liver will become lacerated).

25. Given a list of ratios of ventilations to compressions, the student will be able to recognize the correct ratio when performing:

    A. Two-man cardiopulmonary resuscitation on an average adult
    B. One-man cardiopulmonary resuscitation on:

        (1) an average adult
        (2) an infant or small child

26. Given a list of rates in seconds and/or a number of compressions per minute, the student will be able to recognize the correct number or rate the chest is compressed when performing:

    A. Two-man cardiopulmonary resuscitation on an adult
    B. One-man cardiopulmonary resuscitation on:

        (1) an average adult
        (2) an infant or small child

27. Given a list of physical changes, the student will be able to recognize the changes resulting from effective cardiopulmonary resuscitation.

28. Given a list of percentages, the student will be able to select the correct percentage of normal cardiac output artificial circulation generates.

29. Given a list of activities, the student will be able to recognize the correct activities to perform when two-man cardiopulmonary resuscitation is not being effective.

30. Given a list of reasons, the student will be able to recognize the correct reason why dilated pupils are not a "reliable" sign of adequate circulation.

31. Given a list of conditions, the student will be able to select the conditions under which cardiopulmonary resuscitation efforts are to be terminated.

32. Given a list of seconds, the student will be able to recognize:

    A. The maximum amount of time compressions can be interrupted
    B. The minimum amount of time cardiopulmonary resuscitation must continue before compressions can be interrupted again.

33. Given a list of situations and/or activities, the student will be able to select the correct situations in which cardiopulmonary resuscitation should or should not be performed and/or what activities should be performed. The list of activities involved should relate to the following situations.

    A. A drowning victim
    B. A lineman atop a pole

34. Given a list of arteries (not containing the carotid artery) and/or other possible locations to detect a pulse, the student will be able to recognize the best possible alternative location to detect an infant's pulse.

35. Given a list of errors, the student will be able to identify the common errors involved in using a bag-valve mask and demand-valve unit.

36. Given a list of results, the student will be able to recognize the results that occur when an oropharyngeal airway is used on a conscious or semi-conscious adult.

37. Given a list of statements, the student will be able to identify the statement which best describes the purpose of aspirating a patient.

38. Given a list of situations describing patients who require aspiration, the student will identify those situations which indicate the use of:

    A. Tonsil tip catheter
    B. French catheter

39. Given a list of techniques of controlling bleeding in various sequences, the student will be able to recognize the correct sequence of the techniques (first to last) as they should be tried in controlling bleeding.

40. Given a description of blood flow and color of blood, the student will be able to recognize the correct description and color for arterial, venous, and capillary bleeding.

41. Given a list of activities, the student will be able to correctly recognize the activity to be performed if a dressing becomes blood soaked.

42. Given a list of activities, the student will be able to correctly recognize the activity to be performed in the situation where a patient's clothing is sticking to the wounded area.

43. Given a list of pressure points (arteries), the student will be able to select the correct pressure point to be used to control bleeding from the following areas:

    A. Arm
    B. Leg

C. Neck
D. Scalp
E. Face
F. Chest wall or armpits

44. Given a list of activities, the student will be able to correctly recognize the activities that need to be performed after the application of a tourniquet.

45. Given a list of common household materials, the student will be able to correctly recognize those materials that should not be used in making a makeshift tourniquet.

46. Given a diagram of a multi-level stretcher, the student will identify the location of the following:

A. Two handles which release the stretcher to be moved up or down
B. Handle which releases the mechanism which controls the angle of the head of the stretcher
C. Position of hands when lifting the stretcher
D. Patient restraint bars

47. Given a list of situations describing the evacuation of a pulseless patient, the student will be able to identify the situation in which evacuation is being done correctly.

48. Given lists of signs and symptoms, the student will be able to identify the medical problem as being one of the items listed:

A. Coronary Thrombosis
B. Angina
C. Congestive Heart Failure

49. Given a list of causitive factors, the student will be able to select the resultant medical illness from a list of medical emergencies including:

A. Coronary Thrombosis
B. Angina
C. Congestive Heart Failure

50. Given a list of oxygen administration methods, the student will be able to match the percentages of oxygen delivered with the method administered.

51. Given a list of oxygen delivery methods, the student will be able to select the method most accepted by congestive heart failure patients.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objective.

1. Given an adult manikin, the student will be able to demonstrate in proper sequence, the four steps of the primary survey on the manikin. Successful performance includes the following:

   A. Opening the airway by hyperextension
   B. Checking for breathing using look, listen, and feel
   C. Check for circulation by palpating the carotid artery
   D. Check for severe hemorrhage

   In order to complete the objective, the student must be successful at all steps being presented in the proper sequence.

2. Given an adult manikin, the student will be able to correctly administer one-man cardiopulmonary resuscitation (CPR) on the manikin.

3. Given an adult manikin and an assistant (either a fellow student or the instructor), the student will be able to correctly perform two-man CPR. Successful performance involves:

   A. The administration of ventilations, while the assistant administers compressions on the manikin.
   B. The administration of compressions while the assistant ventilates the manikin.
   C. Switch from administering compressions to ventilating and vice-versa without the loss of adequate ventilations and compressions on the manikin.

   The student must successfully accomplish all three activities to complete the objective.

4. Given an adult manikin without a suspected neck injury and no adjunct equipment, the student will be able to correctly manage an obstructed airway on the manikin. Successful performance involves the use of the following techniques:

   A. Hyperextension of the head and neck
   B. Triple-airway maneuver
   C. Finger sweep of manikin's mouth
   D. Blow to manikin
   E. Heimlich maneuver

The student must successfully perform each of the preceeding techniques in sequence to complete the objective.

5. Given an adult manikin with a suspected cervical spine injury and no adjunct equipment, the student will be able to correctly manage an obstructed airway of the manikin. Successful performance involves the use of the following techniques:

   A. IPPV with the head in the neutral position
   B. Forward displacement of the mandible (thumb in mouth)
   C. Finger sweep with the head in the neutral position

   To complete the objective, the student must be successful in all techniques in the proper sequence.

6. Given a Type "E" oxygen tank and a gauge, the student shall correctly assemble, apply, and regulate and disassemble oxygen equipment.

7. Given an infant manikin, the student will be able to correctly perform cardiopulmonary resuscitation on the infant manikin.

8. Given an adult manikin, the student will correctly insert an oropharyngeal airway for maintenance of an open airway.

9. Given an adult manikin, bag valve mask, demand valve unit, and oxygen, the student will be able to correctly perform two-man cardiopulmonary resuscitation using for ventilation:

   A. Bag-valve mask with/without oxygen
   B. Demand-valve unit with oxygen

   The student will demonstrate the ability to:

   (1) Perform compressions while the assistant ventilates, using a bag-valve mask with and without oxygen and the demand-valve unit.
   (2) Perform ventilations with the bag-valve mask with and without oxygen while assistant performs compressions.
   (3) Perform ventilations with demand-valve unit while the assistant performs compressions.
   (4) Switching with assistant between compressions and ventilation using each piece of equipment.

   The student must successfully perform each of the above four steps to complete the objective.

10. Given a manikin, a portable aspirator, tonsil tip catheters, and a french catheter, the student will demonstrate the correct procedure on the manikin for aspirating a patient with a:

    A. Tonsil tip catheter
    B. French catheter

    To complete the objective, the student must be successful for each of the techniques.

11. Given a manikin, multi-level or portable stretcher, ambulance, and three students, the student will be able to evacuate a victim from a building into a vehicle while administering CPR continuously on the manikin.

12. Given the following materials:

    A. Sterile dressings, clean cloth or clean handkerchief
    B. A commercial tourniquet or a cravat and stick or the suitable materials

    and given another individual to serve as a victim (either the instructor or a fellow student), the student will be able to correctly control simulated external bleeding of the victim's leg or arm. Successful performance requires the use of the following techniques in order of priority

    A. Direct pressure
    B. Elevation
    C. Application of pressure to pressure points
    D. Application of a tourniquet

    The student must successfully accomplish all four activities to complete this objective. At the end of each activity, the instructor will inform the student that the bleeding has not stopped and the student will then be expected to use the next technique.

13. Given an oxygen tank with a regulator, rebreather masks and nasal cannulas, the student, when presented with a simulated patient (fellow student or other victim), will be able to determine the need for and administer oxygen through the rebreather mask or nasal cannula. If an error is made in the administration of oxygen attempt, that attempt is terminated and the next attempt must begin with the first procedural step. As a minimum behavior, the student must (a) adhere to all safety rules as defined during the lecture and demonstration, (b) select the delivery method best suited to the oxygen concentration needs of the patient, (c) apply the mask or cannula, and (d) disconnect the cannula or mask from the regulator and bleed the valve.

9

BASIC LIFE SUPPORT AND PRIMARY SURVEY

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will:

1. Distribute the student activity sheet and handouts during the class period prior to beginning this module. Assignments are:

    A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 121-123, 178-212, 239-263, 341-347, 407-408.

    B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 61-85, 142-152, 179-180.

    C. First Aid For Foreign Body Obstruction of the Airway; American National Red Cross, (1976).

    D. Cardiopulmonary Resuscitation; The American National Red Cross, (1974).

    E. Heart Fact; American Heart Association, (1977).

2. This module is planned for 12 hours. The lecture will involve the use of slides, filmstrips and 16mm films. The content of the lecture is specified in the Module Outline.

    A. Slides are from the EMERGENCY CARE SERIES, Robert J. Brady Company. Units 2 and 3.

    B. Filmstrips: The Heimlich Maneuver, by Barbara Buce, (1977), Paramount Oxford Films.

    C. Filmstrips: Emergency Medical Care Series by Trainex

        (1) The Respiratory System, Program No. 327, Track 1 to 24.
        (2) The Cardiovascular System, Program No. 326, Track 15 to 45.
        (3) Oxygen Administration, Program No.442.
        (4) Pharyngeal Suctioning, Program No. BN 270.

    D. Film: 16mm Revised New Pulse of Life, American Heart Association.

    E. References:

        (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons, 1975). 2nd Edition. Pages: 39-116, 231-239.
        (2) Standards for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC); Supplement to JAMA, February 18, 1974, Vol. 227, No. 7.

(3) Manual for Instructor - Trainers and Instructors of Basic Cardiac Life Support; American Heart Association.
(4) Lifeway Obstruction: Try Just a Little Harder, by Gregory B. Camp, M.D.; Emergency Product News; September/October, 1976.
(5) Human Function and Structure, by Dorothy S. Laciano, Ph.D., Arthur J. Vandes, M.D. and James H. Sherman, Ph.D.; McGraw-Hill, (1978).
(6) Facts about: Sudden Infant Death Syndrome (SIDS); U. S. Department of Health, Education, and Welfare, 1972.

F. Alternative Learning Resources:

(1) Filmstrip: Methods of Artificial Ventilation, by Trainex. Program 328 on Emergency Medical Care. Methods of CPR, by Trainex. Program 329 on Emergency Medical Care.
(2) Slides: Cardiopulmonary Resuscitation: Step by Step: Unit 1 to 7, American Heart Association.

G. Handouts: No. 1 Topographic Anatomy
No. 2 Respiratory System
No. 3 Circulatory System
For student use during anatomy portion of lecture

H. Review Instructional Materials and Equipment

3. Prepare notes and conduct the demonstration session. The demonstrations consist of:

A. Procedures for treating an adult patient having cardiac arrest--one- and two-man CPR.

B. Procedures for managing an obstructed airway in an adult patient.

C. Procedures for treating an infant patient having a cardiac arrest--one-man CPR on an infant patient.

D. Procedures for control of severe hemorrhage.

E. Procedures for the use of:

(1) Type "E" oxygen tank
(2) Oropharyngeal airway
(3) Bag-valve mask
(4) Bag-valve mask with oxygen attached
(5) Pocket mask
(6) Nasal cannula
(7) Rebreating mask
(8) Oxygen mask

F. Procedure for the use of demand-valve unit for oxygen administration.

G. Procedure for the use of the portable aspirator with thumb control french catheter.

H. Primary Survey

I. Locating Arterial Pressure Points

J. Locating and the counting of carotid pulses.

K. Application of tourniquets.

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performances seen.

5. After the practice session and lecture, the instructor will evaluate the student's ability to perform each of the skills. The student's skills can be evaluated separately or collectively.

6. The American Heart Association Basic Life Support written examination will be used as the criterion evaluation, or current State Heart Association.

7. After completing skill and knowledge evaluation, the instructor will advise the student of his/her progress and suggest Alternative Learning Resources if appropriate.

8. If a student does not hold a current American Heart Association card, one will be issued when the student successfully passes the written and skill examination provided by the American Heart Association.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and Chalkboard
Slide Projector
16 mm Movie Projector
Screen
Filmstrip/Cassette Machine
Heart Model
Lung Model

Teaching Aides

Adult Manikin (one for every 4 to 6 students)
Infant Manikin (one for every 4 to 6 students)
Alcohol Swabs (one box for every 20 students)
Bag-Valve Masks and Oropharyngeal Airway (all sizes, complete set)
Portable Aspirator with French and Thumb Control Catheters
"E" Oxygen Tank and Reduction System (Meter Flow and Demand-Valve Unit)
Nasal Cannulas (10)
Rebreathing Mask (10)
Wrist Watch with Second Hand
4 x 4 Dressings, Cravats, ABD Dressing
Commercial Tourniquet
Sheets and Blankets (one for every 2 to 4 students)
Portable Stretcher
Multi-Level Stretcher with Straps and Cardiac Board
Ambulance

Handouts:

Skill and Knowledge Objectives
Skill Evaluation Sheets
Written Examination
Task Sheets
Skill Development Checklist
No. 1 Topographic Anatomy
No. 2 Respiratory System
No. 3 Circulatory System

Audiovisuals

Slides: Emergency Care Series: (Units 2 and 3)
Filmstrips: Paramount Oxford films: The Heimlich Maneuver.
Emergency Medical Care Series: Trainex

(1) The Respiratory System, Program N 327, Track 1 to 24.
(2) The Cardiovascular System, Program No. 326, Track 15 to 45.

(3) Oxygen Administration, Program No. 442.
(4) Pharyngeal Suctioning, Program No. BN 270.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material assigned prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 178-212; 239-263; 341-347; 407-408.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, 2nd Edition. Pages 60-85; 142-152; 179-180; 101-109; 121-123.

   D. First Aid For Foreign Body Obstruction of the Airway, American National Red Cross; (1974).

   E. Cardiopulmonary Resuscitation, The American National Red Cross, (1974).

   F. Heart Facts, American Heart Association, (1977).

3. Handouts: No. 1 Topographic Anatomy
   No. 2 Respiratory System, Anatomy and Terminology
   No. 3 Circulatory System, Anatomy and Terminology
   For student use during anatomy portion of lecture.

4. Student skill development checklist for Basic Life Support and Primary Survey. The student shall be responsible for obtaining the signature when he/she satisfactorily completes each skill.

5. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

6. Student, if not holding a current Cardiopulmonary Resuscitation card, shall take a written and skill examination, administered by a Certified CPR Instructor of the American Heart Association. The student shall then be registered with the State Heart Association. The Heart Association shall then issue a certifying card, if both exams are successfully passed.

7. Alternative Learning Resources

   A. Filmstrips:
      (1) Methods of Artificial Ventilation, by Trainex. Program 328 on Emergency Medical Care.
      (2) Methods of CPR, by Trainex. Program 329 on Emergency Medical Care.

   B. Slides:
      (1) Cardiopulmonary Resuscitation: Step by Step: Unit 1 to 7, American Heart Association.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

8. Before leaving this module, the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTOR'S INITIAL
A. Recognize unconsciousness			
B. Head tilt			
C. Opening airway-no cervical spine injury			
D. Opening airway-possible cervical spine injury			
E. Mouth to mouth ventilation			
F. Mouth to nose ventilation			
G. Carotid pulse 15 secs.			
H. Jaw lift			
I. One man CPR			
J. Two man CPR			
K. Manual removal of airway obst.			
L. Abdomenal thrust			
M. Chest thrust			
N. Airway aspirator			
O. Insert oropharyngeal airway			
P. Open/shut down type "E" oxygen tank			
Q. Bag/mask inhalation with oxygen			
R. Bag/mask inhalation without oxygen			
S. Demand valve respirator			
T. Oxygen cannula			
U. Oxygen mask/to oxygen tank			
V. Pocket mask			

SKILL DEVELOPMENT (CONTINUED)

	PASS	INCOMPLETE	INSTRUCTOR'S INITIAL
W. Locate: Pressure points			
a. Brachial			
b. Femoral			
c. Carotid			
d. Temporal			
e. Facial			
f. Subclavian			
X. Count Pulse: 30 seconds			
a. carotid plus/minus 2			
Y. Pressure dressing for ext. arterial bleeding			
Z. Application of tourniquets			
AA. Portable stretcher			
BB. Multilevel stretcher: dressing			
mobility			
undressing			

BASIC LIFE SUPPORT AND PRIMARY SURVEY

HANDOUT #1

Topographic Anatomy Information Sheet

I. Terms and definitions
  A. Anatomical position-body standing erect, arms at the side with the palms facing forward
  B. Thorax-chest
  C. Abdomen-Portion of the body between the thorax and the pelvis
  D. Pelvis-Lowest part of the trunk
  E. Cranium-Skeleton of the head
  F. Retroperitoneal-Behind the peritoneum
  G. Plane-A specified level either horizontal or vertical

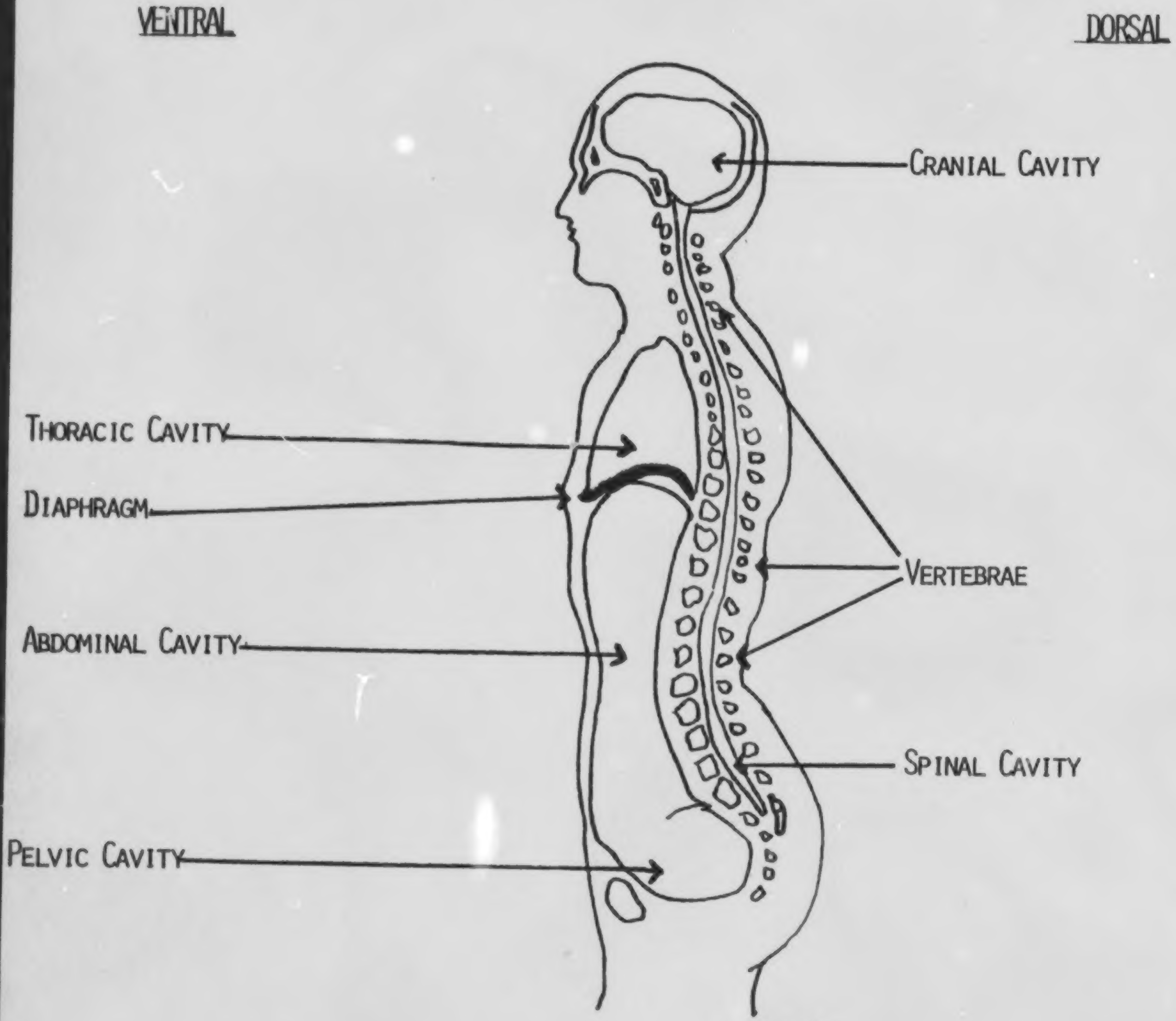
II. Body cavities
  A. Dorsal
    1. Cranial
    2. Spinal
  B. Ventral
    1. Thoracic
    2. Abdominal
    3. Pelvic

III. Organs in each cavity
  A. Cranial
    1. Brain
    2. Pituitary gland
  B. Spinal--Spinal Cord
  C. Thoracic
    1. Lungs
    2. Heart
    3. Thymus
    4. Trachea
    5. Bronchi
    6. Esophagus
  D. Abdominal and Pelvic (Peritoneal)
    1. Stomach
    2. Liver
    3. Gallbladder
    4. Spleen
    5. Pancreas
    6. Small and large intestine
  E. Retroperitoneal
    1. Kidneys
    2. Ureters
    3. Adrenal glands

IV. Abdominopelvic Quadrants
  A. Upper right quadrant (URQ)
  B. Upper left quadrant (ULQ)
  C. Lower right quadrant (LRQ)
  D. Lower left quadrant (LLQ)

BASIC LIFE SUPPORT AND PRIMARY SURVEY

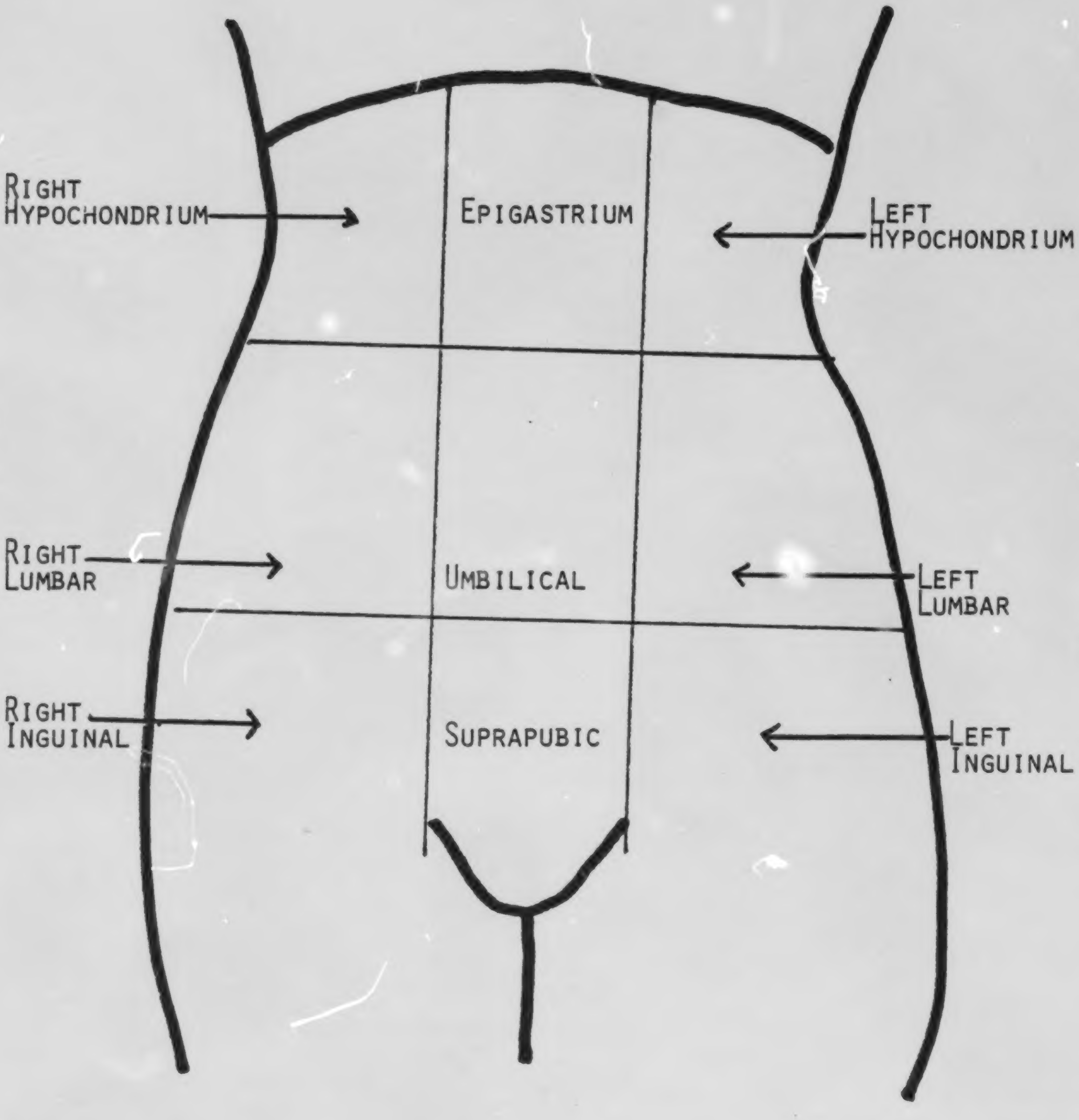
SIDE VIEW-BODY CAVITIES


VENTRAL
DORSAL
CRANIAL CAVITY
THORACIC CAVITY
DIAPHRAGM
VERTEBRAE
ABDOMINAL CAVITY
SPINAL CAVITY
PELVIC CAVITY

HANDOUT # 1

BASIC LIFE SUPPORT AND PRIMARY SURVEY

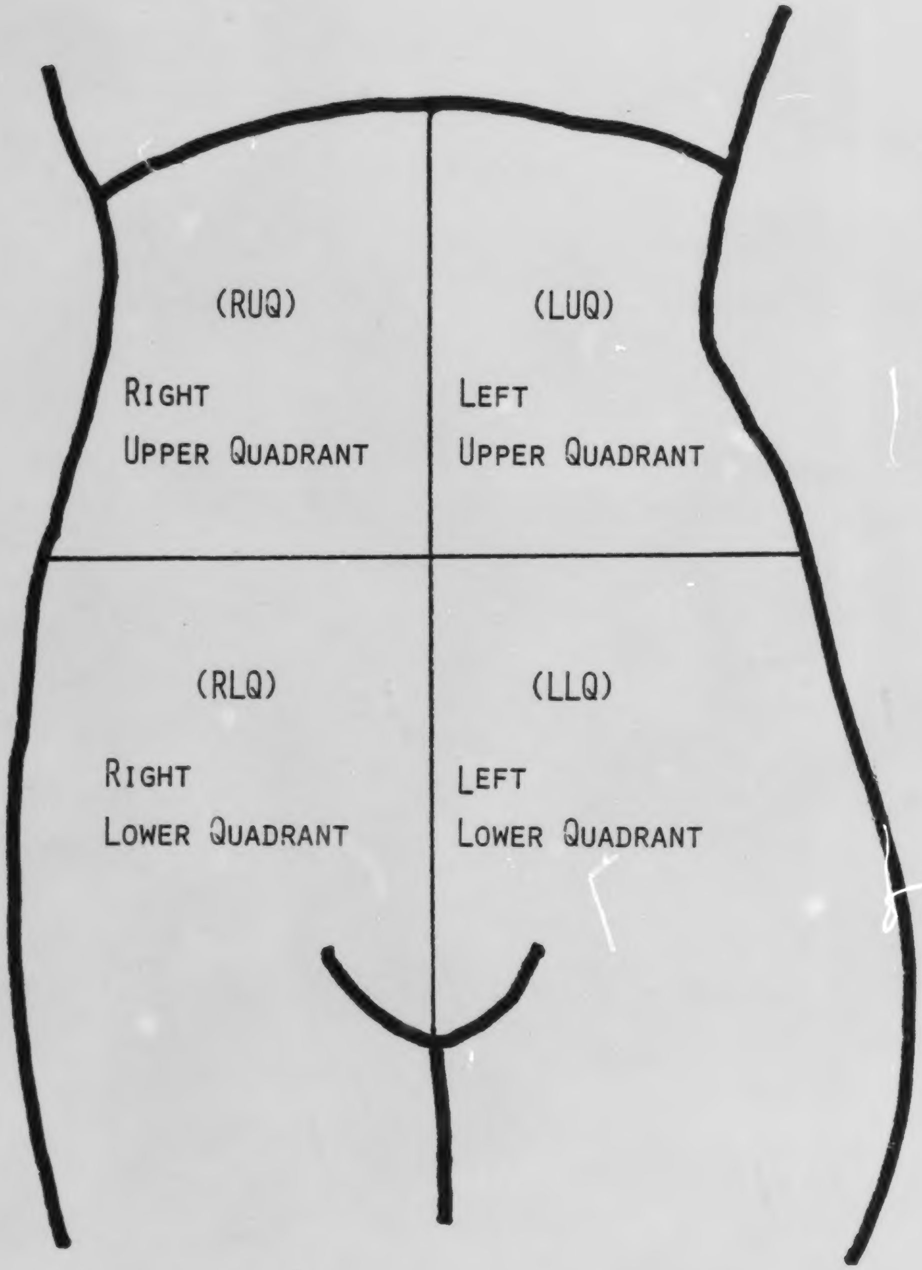
ABDOMINOPELVIC AREA REGIONS


RIGHT HYPOCHONDRIUM
EPIGASTRIUM
LEFT HYPOCHONDRIUM
RIGHT LUMBAR
UMBILICAL
LEFT LUMBAR
RIGHT INGUINAL
SUPRAPUBIC
LEFT INGUINAL

HANDOUT # 1

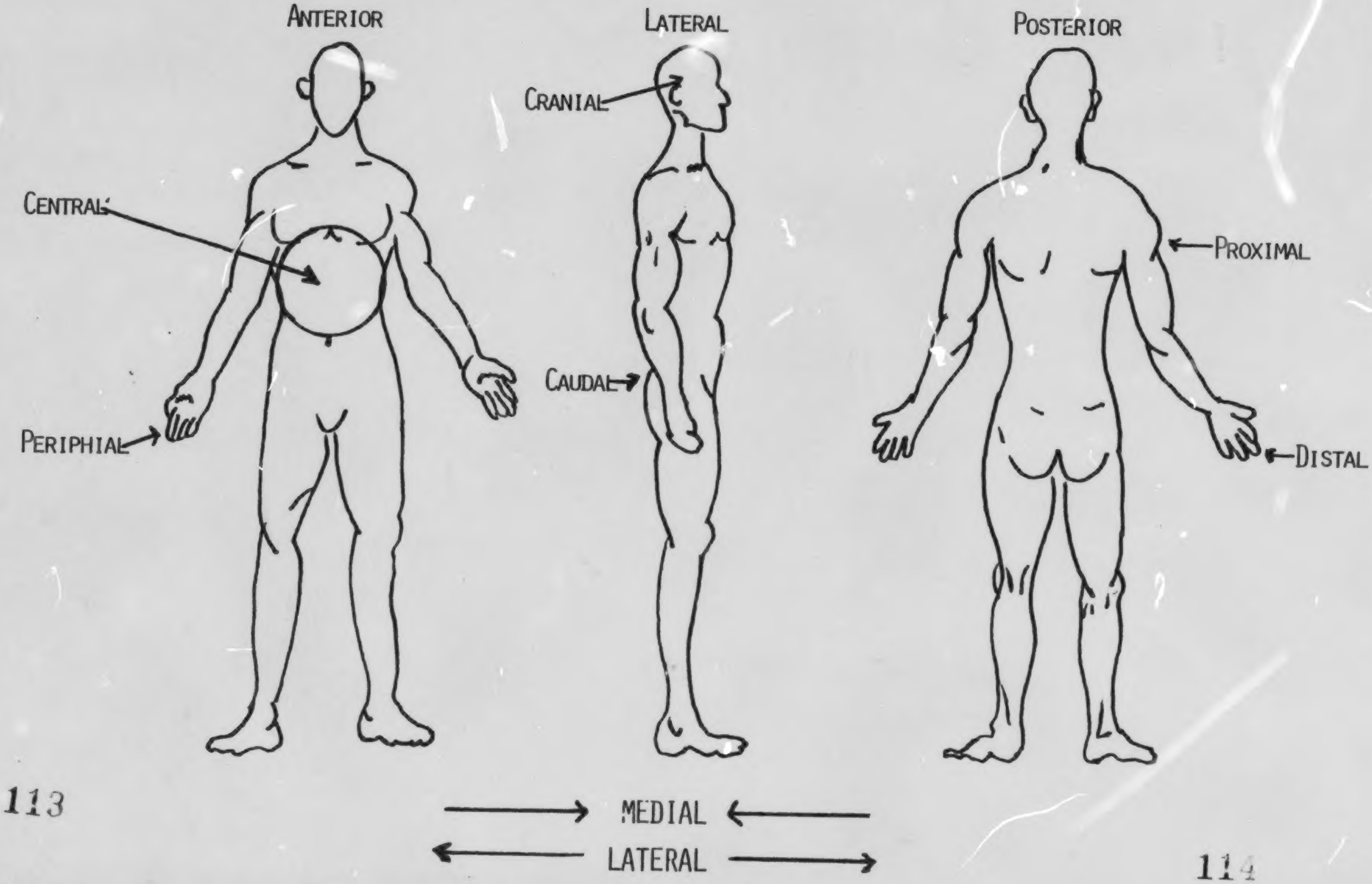
BASIC LIFE SUPPORT AND PRIMARY SURVEY

ABDOMINOPELVIC AREA QUADRANTS


(RUQ)
Right
Upper Quadrant
(LUQ)
Left
Upper Quadrant
(RLQ)
Right
Lower Quadrant
(LLQ)
Left
Lower Quadrant

HANDOUT # 1

BASIC LIFE SUPPORT AND PRIMARY SURVEY
DIRECTIONS


ANTERIOR
LATERAL
POSTERIOR
CRANIAL
CENTRAL
PROXIMAL
CAUDAL
PERIPHIAL
DISTAL
MEDIAL
LATERAL

HANDOUT #1 (continued)

V. Abdominopelvic Regions
   - A. Right hypochondrium
   - B. Epigastrium
   - C. Left hypochondrium
   - D. Right lumbar
   - E. Umbilical
   - F. Left lumbar
   - G. Right inguinal
   - H. Suprapubic
   - I. Left inguinal

VI. Direction and Anatomical Position
   - A. Medial--Near the midline
   - B. Lateral--Toward the side
   - C. Posterior--Toward the back
   - D. Anterior--Toward the front
   - E. Superior--Above
   - F. Inferior--Below
   - G. Central--Pertaining to the outward part
   - H. Peripheral--Pertaining to the outward part
   - I. Cranial--Near the head
   - J. Caudal--Near the lower end of the spine
   - K. Proximal--Nearest the origin of a structure
   - L. Distal--Farthest from the origin of a structure

BASIC LIFE SUPPORT AND PRIMARY SURVEY

HANDOUT #2

Respiratory System Information Sheet

I. Terms and definitions
   A. Respiration--Exchange of oxygen and carbon dioxide in the body
   B. Breathing--Alternate inspiration and expiration of air
   C. Inspiration--Drawing of air into the lungs
   D. Expiration--Expulsion of air from the lungs
   E. Sinuses--Eight cavities in the skull connected with the nasal cavaties
   F. Pharynx--Muscular passageway for food and liquids into the esophagus and for air into the lungs
   G. Cilia--Hairlike processes projecting from epithelial cells
   H. Adenoids--Masses of lymphoid tissue found in the nasopharynx
   I. Tonsils--Masses of lymphoid tissue found in the oropharynx
   J. Eustachian tubes--Passageways which connect the middle ear with the pharynx
   K. Larynx--Voice box
   L. Ventilation--Supplying of oxygen to the body through the lungs

II. Fundamental purposes of breathing
   A. Supply oxygen to the individual tissue cells
   B. Remove the gaseous waste product, carbon dioxide

III. Kinds of respiration
   A. External--The exchange of oxygen for carbon dioxide within the alveoli of the lungs (lung breathing)
   B. Internal--The exchange of oxygen for carbon dioxide within the cells (cell breathing)

IV. Structures of the respiratory system
   A. Frontal sinus
   B. Nasal cavity
   C. Sphenoidal sinus
   D. Nasopharynx
   E. Oropharynx
   F. Epiglottis
   G. Laryngeal pharynx
   H. Larynx and vocal folds
   I. Trachea
   J. Lungs
   K. Bronchi
   L. Diaphragm
   M. Terminal bronchiole
   N. Alveoli

HANDOUT #2 (continued)

V. Structure of the nasal cavities
  A. Two spaces (nasal cavities) separated by a partition (nasal septum)
  B. Three small bones, the turbinates or conchae, project into each nasal cavity
  C. The nasal cavities are lined with a ciliated mucous membrane

VI. Functions of the nasal cavities
  A. The removal of foreign bodies, such as dust particles and bacteria, which are filtered out by the cilia or trapped on the surface of the mucous membrane
  B. The warming and moistening of the air before it reaches the lungs
  C. The sense of smell

VII. Structure of the pharynx
  A. Nasopharynx--Upper portion containing the adenoids
  B. Oropharynx--Middle section behind the mouth containing the tonsils and the openings of the eustachian tubes
  C. Laryngeal pharynx--Lower section with openings to larynx and esophagus

VIII. Functions of the pharynx and pharyngeal structures
  A. Passageway for food, fluids and air
  B. Adenoids and tonsils serve as filter for microorganisms and
  C. Eustachian tubes equalize the pressure in the middle ear

IX. Structure of the larynx
  A. Framework of cartilage held together by ligaments
  B. Adenoids and tonsils serve as filters for microorganisms and other foreign substances
  C. Eustachian tubes equalize the pressure in the middle ear

X. Functions of the larynx and laryngeal structures
  A. Passageway for air
  B. Production of sound
  C. Epiglottis prevents food from entering larynx

XI. Structure of the trachea
  A. Tube with a cartilage framework extending from the larynx to the bronchi
  B. Lining--Ciliated mucous membrane

XII. Functions of the trachea
  A. Conduction of air to and from the lungs
  B. Cilia trap inhaled foreign particles and carry them out of the respiratory tract by a wavelike movement

XIII. Structure of the bronchi
  A. As the trachea enters the chest cavity, it divides into two smaller tubes, the right and left bronchus
  B. As the bronchi enter the lungs at the hilum, they divide into smaller and smaller branches forming the bronchial tree

HANDOUT #2 (continued)

- C. The smallest branches called bronchioles have walls composed of smooth muscle and a lining of mucous membrane
- D. At the end of each bronchiole there is a cluster of air sacs, resembling a bunch of grapes, known as the alveoli
- E. Each air sac, alveolus, is lined with epithelium, one cell layer thick and surrounded by capillary network

XIV. Functions of bronchi and bronchial structures
- A. Passageway of oxygen to alveoli
- B. In the alveoli, the exchange of gases (oxygen and carbon dioxide) takes place

XV. Structure of lungs
- A. Two cone-shaped organs which nearly fill the chest cavity
- B. The top of the lung is called the apex; the lower, wider portion that fits over the diaphragm is called the base
- C. Comprised of spongy tissue filled with alveoli, nerves and blood and lymph vessels
- D. Divided into sections called lobes, the right having three lobes and the left two
- E. The covering is a smooth, double-layered sac, pleura, which provides moisture to prevent friction during movement

XVI. Mechanics of breathing
- A. The lungs do not move by themselves during the process of breathing; they are inflated and deflated by the muscles which surround them
- B. The diaphragm and the intercostal muscles contract, creating a vacuum; air rushes in to inflate the lungs (this is called inspiration)
- C. When the diaphragm and intercostal muscles relax, the lungs are compressed and the air flows out (this is called expiration)

XVII. Respiratory rates
- A. One respiration consists of a single inspiration and a single expiration
- B. Average respiratory rate for an adult varies from 14 to 20 times per minute (respiratory rates are normally higher in children)
- C. Factors that affect rate
  1. Age
  2. Sex
  3. Position
  4. Exercise
  5. Temperature
  6. Drugs
  7. Physical condition
  8. Emotions

XVIII. Control of breathing
- A. Controlled by the respiratory center of the brain which is located in the medulla, immediately above the spinal cord

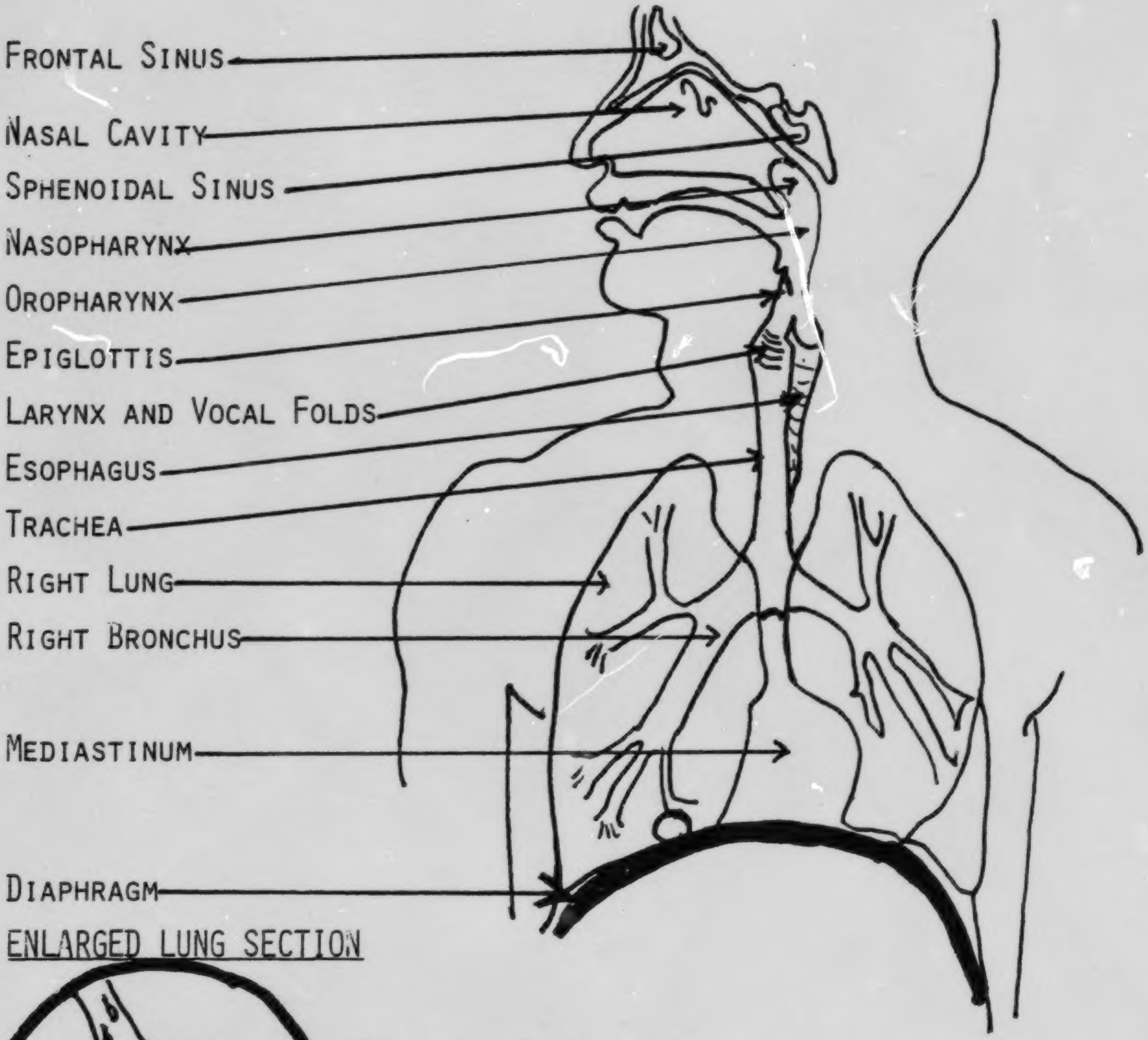
HANDOUT #2 (continued)

XIX. Types of respiration
   - A. Eupnea--Normal breathing
   - B. Apnea--Temporary cessation of breathing
   - C. Dyspnea--Painful or difficult breathing
   - D. Hyperpnea--Increased rate and depth of breathing
   - E. Tachypnes--Rapid, shallow breathing
   - F. Orthopnea--Difficult breathing relieved only by sitting or standing erect

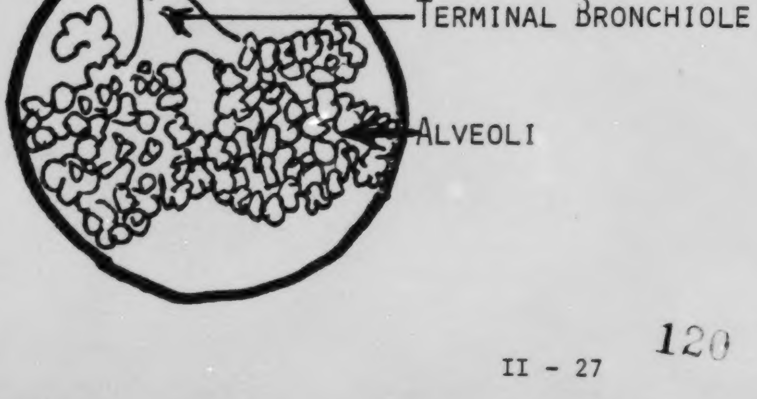
HANDOUT # 2

BASIC LIFE SUPPORT AND PRIMARY SURVEY

RESPIRATORY TRACT


FRONTAL SINUS
NASAL CAVITY
SPHENOIDAL SINUS
NASOPHARYNX
OROPHARYNX
EPIGLOTTIS
LARYNX AND VOCAL FOLDS
ESOPHAGUS
TRACHEA
RIGHT LUNG
RIGHT BRONCHUS
MEDIASTINUM
DIAPHRAGM

ENLARGED LUNG SECTION


TERMINAL BRONCHIOLE
ALVEOLI

120

BASIC LIFE SUPPORT AND PRIMARY SURVEY

HANDOUT #3

Circulatory System Information Sheet

I. Terms and definitions
   A. Cardiac--Pertaining to the heart
   B. Cardiology--Study of the heart
   C. Endocardium--Lining of the heart
   D. Myocardium--Muscle of the heart
   E. Pericardium--Covering of the heart
   F. Atrium--Upper chambers or compartments of the heart
   G. Ventricle--Lower, pumping chamber of the heart
   H. Vein--One of the blood vessels carrying blood to the heart
   I. Artery--One of the blood vessels carrying blood from the heart
   J. Arteriole--Very small artery
   K. Venule--Very small vein
   L. Capillary--Minute blood vessel between arterioles and venules, or a similar channel containing lymph
   M. Tricuspid--Three-pointed heart valve made of three flaps
   N. Cusp--Flap of the valves which open and close
   O. Bicuspid--Heart valve comprised of two heavy flaps
   P. Aorta--Main trunk of the arterial system; largest artery
   Q. Coronary--Blood vessels which supply the walls of the heart
   R. Septum--Wall down the middle of the heart that divides it into right and left sides
   S. Lymph nodes--Small bundles of special lymphoid tissue; also called lymph glands
   T. Thymus--Two-lobed gland of lymphatic tissue in upper part of the chest
   U. Excretory--Pertaining to elimination of waste products
   V. Blood Pressure (B/P)--Pressure exerted by the blood on the wall of any vessel, usually the artery

II. Parts of circulatory system
   A. Cardiovascular system
      1. Heart
      2. Blood vessels
   B. Lymphatic system
      1. Lymph vessels
      2. Accessory organs, including the thymus, spleen, tonsils and adenoids
   C. The blood

III. Functions of circulatory system
   A. Transportation of food and oxygen to body cells
   B. Transportation of waste products to excretory organs
   C. Distribution of hormones and antibodies

HANDOUT #3 (continued)

- D. Aid in control of body temperature
- E. Maintenance of homeostasis

IV. Structure of heart
- A. Layers of the heart wall
  1. Endocardium--Very smooth layer of cells that lines the inside of the heart and forms the valves
  2. Myocardium--Middle and thickest layer; the muscle layer
  3. Pericardium--Covering of the heart; double membrane that secretes fluid which provides lubrication for the heart action preventing friction
- B. Chambers
  1. Right atrium or auricle--Thin walled space that receives venous blood that returns from the body
  2. Right ventricle--Thicker walled space that receives the blood from the right atrium and pumps it into the lungs
  3. Left atrium or auricle--Receives oxygenated blood from the lungs
  4. Left ventricle--Thickest walled space of the heart; receives blood from the left atrium and pumps it to the rest of the body through the arteries
  5. Septum--Separates the right and left sides of the heart
- C. Valves
  1. All open one way; located at the entrance and exit of each ventricle to keep the blood flowing in the right directions
  2. Tricuspid--Closes to prevent any blood from flowing back into the right atrium when the right ventricle begins pumping
  3. Pulmonary semilunar--Between the right ventricle and the pulmonary artery which leads to the lungs; prevents blood from returning to the right ventricle
  4. Bicuspid--Closes to prevent blood from returning to the left atrium when the powerful left ventricle begins its contractions
  5. Aortic semilunar--Between the left ventricle and the aorta; prevents return of the blood to the left ventricle

V. Blood supply to the heart
- A. Coronary arteries branch off the aorta just above the aortic semilunar valve
- B. Left branch supplies the left atrium and ventricle; right supplies the right side
- C. Coronary arteries are capable of increasing or decreasing the blood supply as needed
- D. Coronary arteries become smaller as they enter the heart wall and nourish the tissue through capillaries, then drain into venules and coronary veins that carry the blood to the right atrium

VI. Physiology of the heart
- A. Cardiac cycle--Two phases, the systole and the diastole; while the atria contract, the ventricles rest; when the ventricles contract, the artria relax and fill with blood

HANDOUT #3 (continued)

- B. Nerve control--Heart capable of contracting rhythmically even though its outside nerve connection the heart will beat at slower rate
- C. Nerve supply
  - 1. Part of autonomic nervous system
  - 2. Complex system with both accelerating and braking controls
- D. Conduction system--Combined nerve and muscle tissue which regulates the order of contractions
  - 1. Beginning of the contraction is in the S-A node
  - 2. Contraction wave passes through the atrial muscles causing them to contract
  - 3. A-V node is stimulated and transmits the wave to the bundle of His which stimulates the entire ventricular musculature to contract
- E. Heart sounds and murmurs
  - 1. Normal heart sounds are usually described by two syllables, lubb and dupp
  - 2. First or systolic sound (lubb) is due to closure of the cuspid valves and contraction of the ventricles
  - 3. Second or diastolic sound (dupp) is due to closure of the semilunar valves
  - 4. Murmurs, abnormal heart sound, may be due to faulty valve or one scarred by disease

VII. Structure and function of blood vessels

- A. Arteries
  - 1. Thickest walls of all blood vessels; more muscular than veins; walls three-layered with central layer of muscular tissue thickest
  - 2. Carry blood from the pumping chamber (venticles) to the organs
- B. Capillaries
  - 1. Single layer of endothelial cells form a tube large enough to permit passage of blood cells
  - 2. Materials necessary to life of cells pass through capillary walls into tissues; waste products are absorbed from tissues
- C. Veins
  - 1. Less muscular vessels than arteries; equipped with one-way valves which permit the blood to flow in only one direction
  - 2. Transport blood back to the heart under low pressure

VIII. Circulation of blood

- A. Systemic
  - 1. Left ventricle
  - 2. Aorta
  - 3. Arteries
  - 4. Arterioles
  - 5. Capillaries--Food and oxygen exchanged for waste products and carbon dioxide
  - 6. Venules
  - 7. Veins
  - 8. Inferior or superior vena cava
  - 9. Right atrium

HANDOUT #3 (continued)

- B. Pulmonary
    1. Right ventricle
    2. Pulmonary artery
    3. Arterioles
    4. Capillaries--Carbon dioxide is exchanged for oxygen
    5. Venules
    6. Pulmonary vein
    7. Left atrium

IX. Principal arteries and veins

- A. Arteries
    1. Aorta
    2. Carotid
    3. Subclavian
    4. Axillary
    5. Brachial
    6. Mesenteric
    7. Renal
    8. Radial
    9. Ulnar
    10. Iliac
    11. Femoral
    12. Popliteal
    13. Tibial
    14. Dorsalis pedis
- B. Veins
    1. Jugular
    2. Subclavian
    3. Axillary
    4. Vena cava--Superior, inferior
    5. Brachial
    6. Renal
    7. Iliac
    8. Radial
    9. Ulnar
    10. Femoral
    11. Saphenous--Great, small
    12. Popliteal
    13. Tibial

X. Blood supply to the head

- A. Arteries
    1. Carotid
    2. Temporal
    3. Facial
    4. Occipital
    5. Cerebral
- B. Veins
    1. Facial
    2. Temporal
    3. Occipital
    4. Cerebral
    5. Jugular

HANDOUT #3 (continued)

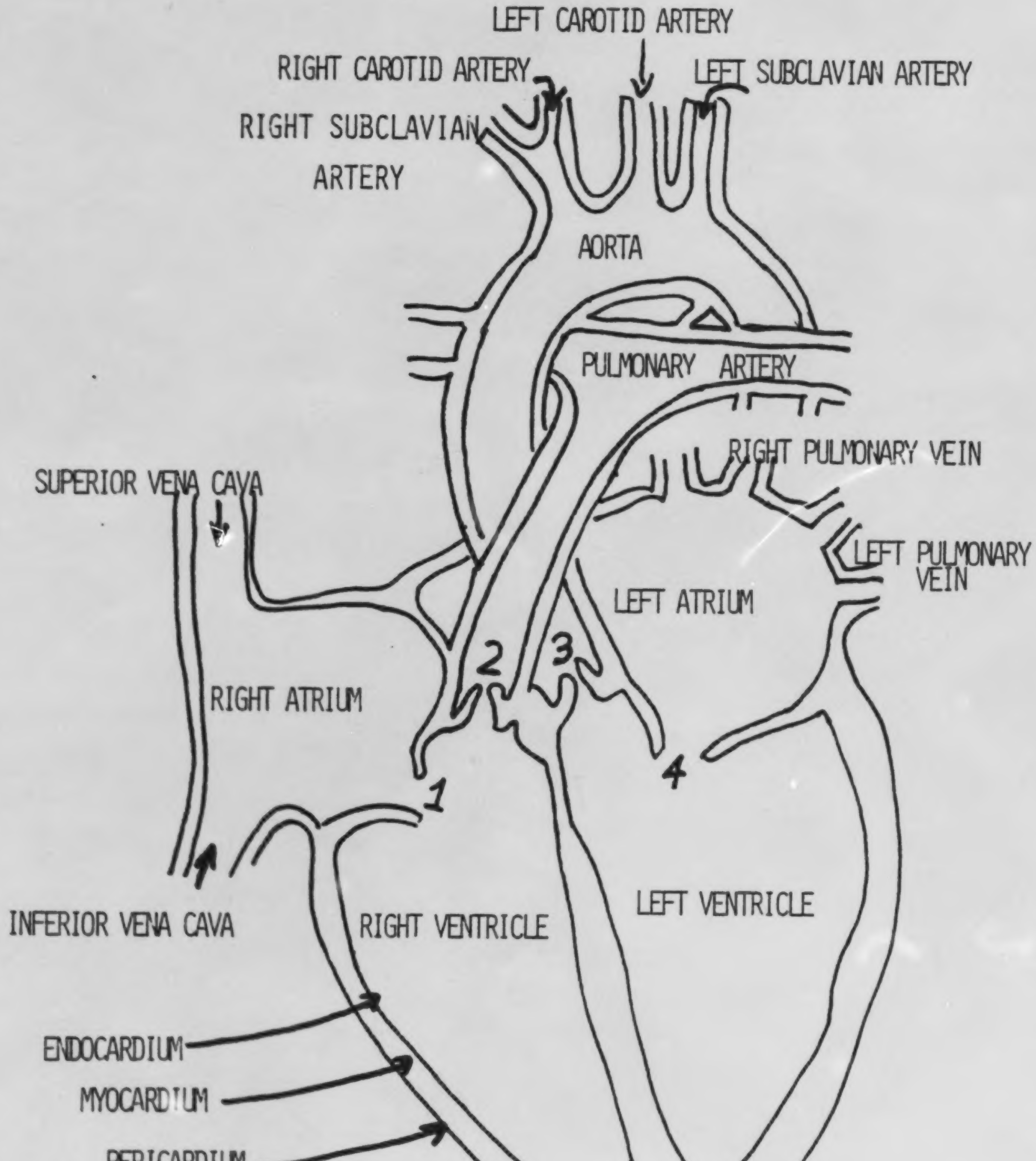
XI. Portal circulation
- A. Veins from the stomach, intestine, spleen, and pancreas empty into one vessel, the portal vein
- B. Portal vein carries the blood loaded with digested food to the liver which extracts food materials for storage and modification including removal of toxins
- C. Blood leaves the liver through the hepatic veins which empty into the inferior vena cava

XII. Lymphatic system
- A. Network of very small lymph capillaries collects excess tissue fluid and certain waste products from the body cells
- B. Lymph fluid resembles plasms in composition but contains less protein
- C. Lymph drainage from the intestinal area may be milky in appearance due to the high fatty content after a meal
- D. Lymph capillaries empty into progressively larger vessels and finally drain into the thoracic duct and the right lymphatic duct
- E. The two main lymphatic channels empty into the veins at the base of the neck where the lymph mixes with the blood plasma
- F. Flow of lymph is slow and is aided by muscular contractions and by valves which keep it from flowing backward
- G. Lymph nodes are found at intervals along the lymph system
- H. Some body organs, tonsils, adenoids, and spleen are formed of lymphoid tissue

XIII. Functions of lymph system
- A. Chief function--Filtration of excess fluid, bacteria, waste products and other foreign substances

STRUCTURE OF THE HEART

HANDOUT #3 BASIC LIFE SUPPORT AND PRIMARY SURVEY


LEFT CAROTID ARTERY
RIGHT CAROTID ARTERY
LEFT SUBCLAVIAN ARTERY
RIGHT SUBCLAVIAN ARTERY
AORTA
PULMONARY ARTERY
RIGHT PULMONARY VEIN
SUPERIOR VENA CAVA
LEFT PULMONARY VEIN
LEFT ATRIUM
2
3
RIGHT ATRIUM
4
1
INFERIOR VENA CAVA
RIGHT VENTRICLE
LEFT VENTRICLE
ENDOCARDIUM
MYOCARDIUM
PERICARDIUM

VALVES

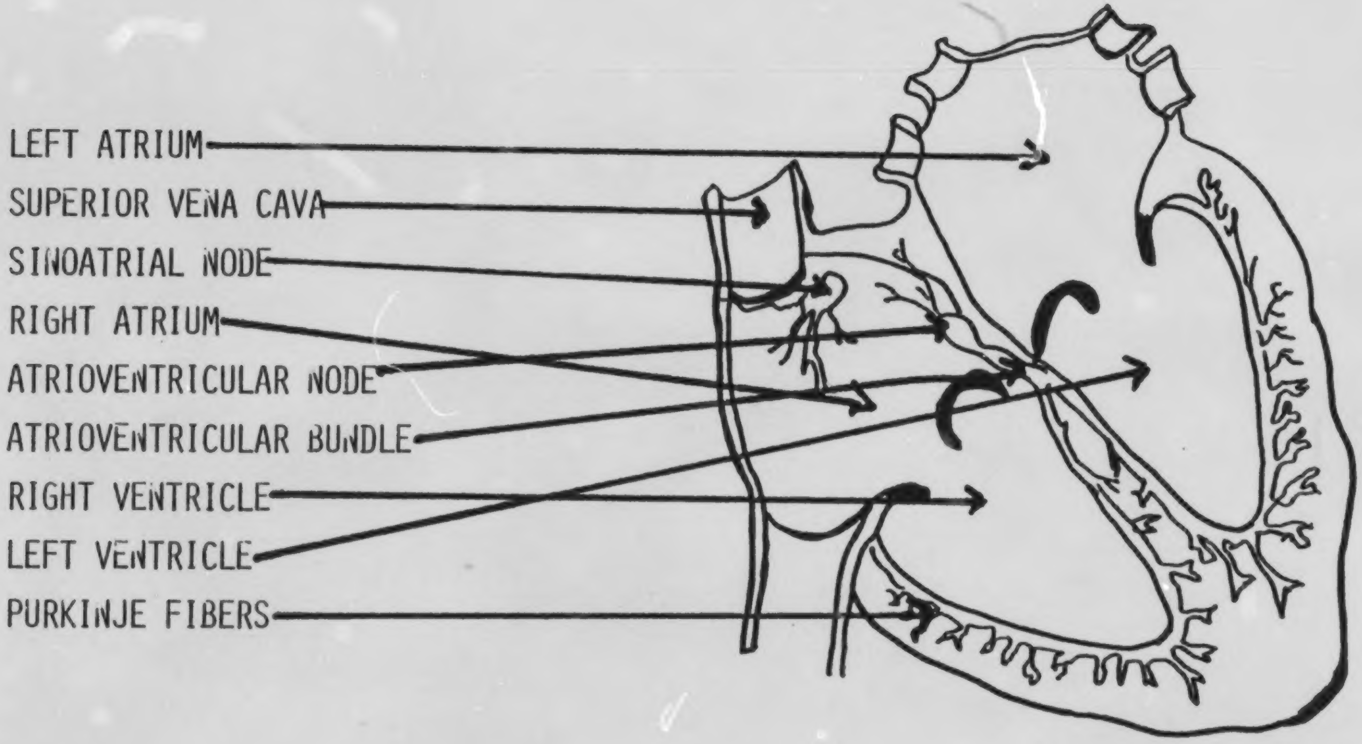
1. TRICUSPID
2. PULMONARY SEMILUNAR
3. AORTIC SEMILUNAR
4. BICUSPID OR MITRAL

BASIC LIFE SUPPORT AND PRIMARY SURVEY

CONDUCTION SYSTEM OF THE HEART

HANDOUT # 3

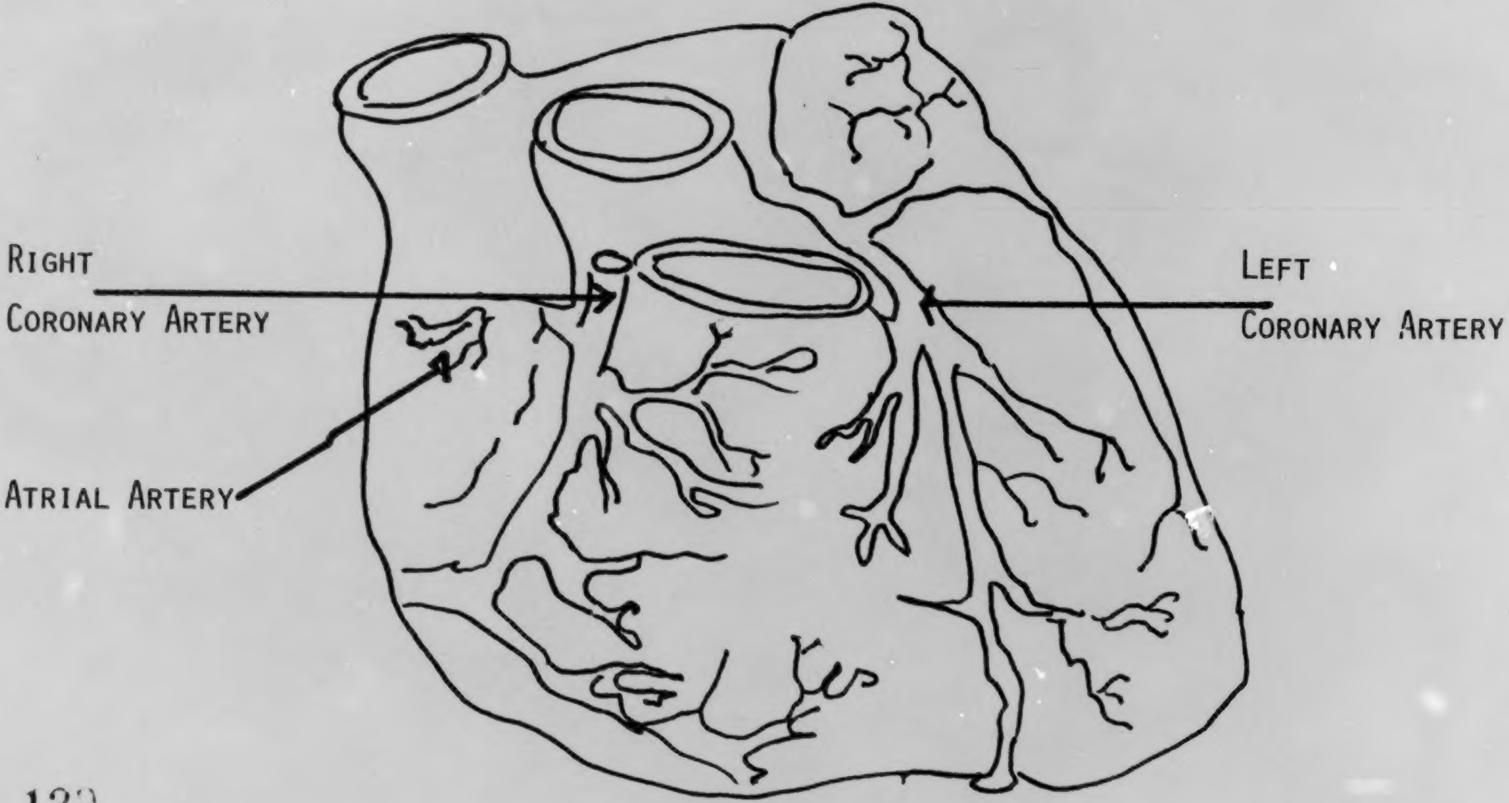
HANDOUT # 3


LEFT ATRIUM
SUPERIOR VENA CAVA
SINOATRIAL NODE
RIGHT ATRIUM
ATRIOVENTRICULAR NODE
ATRIOVENTRICULAR BUNDLE
RIGHT VENTRICLE
LEFT VENTRICLE
PURKINJE FIBERS

BASIC LIFE SUPPORT AND PRIMARY SURVEY

BLOOD SUPPLY TO THE HEART

HANDOUT # 3


RIGHT CORONARY ARTERY
ATRIAL ARTERY
LEFT CORONARY ARTERY

BASIC LIFE SUPPORT AND PRIMARY SURVEY

LECTURE TOPICS	REFERENCES

"There is a definite course every patient follows when dying. This course is known as the pathway from life to death."

I. Pathway from life to death

- A. Loss of meaningful communication
- B. Unconsciousness
- C. Airway obstruction
- D. Respiratory Arrest
- E. Cardiac Arrest
- F. Clinical Death-when rhythmic heart function ceases
- G. Biological Death-when irreversible brain cell damage occurs; usually 4 to 6 minutes after clinical death occurs
- H. Varying degrees of time to pass along the pathway:
  - 1. Terminal illness
  - 2. Sudden death
  - 3. Unconscious person with an airway obstruction
- I. Conditions which affect the 4 to 6 minute time span:
  - 1. Physical health
  - 2. Environmental temperature

"An orderly sequence to identify and correct immediate and life-threatening conditions occurring along this pathway is called primary survey and management."

BASIC LIFE SUPPORT AND PRIMARY SURVEY

LECTURE TOPICS	REFERENCES
II. Primary survey and management of a single patient	Task 1
A. Topographic Anatomy	Handout #1
1. Terms	
2. Body Cavities	
3. Quadrants	
4. Regions of the abdominopelvic area	
5. Directions	
B. Technique - without equipment	
1. Visual survey	Element 2
2. Verbal survey	Element 3
a. level of consciousness	Task 2
b. ability to communicate	
3. Airway survey	
a. examining for a cervical spine injury	Element 1
b. anatomy and physiology of the airway	Handout #2
(1) oral cavity	
(2) nasal passage	
(3) tongue	
(4) pharynx	
(5) larynx	
(6) trachea	
(7) esophagus	
(8) epiglottis	
(9) bronchi	
(10) bronchiolus	
(11) alveoli-700 million/lung	
(12) pleural cavity	
c. examining for obstruction	
d. examining for a laryngectomy stoma	LOOP 4
e. anatomy and physiology of a laryngectomy	

LECTURE TOPICS	REFERENCES
f. terms	
(1) dyspnea-difficult or labored breathing	
(2) apnea-absence of breathing	
4. Airway management	
a. without cervical spine injury	Element 3
b. with cervical spine injury	LOOP 1
c. obstructions	LOOP 3 & 7
5. Breathing survey-look, listen and feel	Element 5
6. Breathing management-intermittent positive pressure ventilation (IPPV)	
a. mouth-to-mouth	Element 6-8
b. mouth-to-nose	LOOP 6
c. mouth-to-stoma	LOOP 4
d. infants and children	
III. Circulatory System	
A. Anatomy and physiology	Handout #3
1. Blood	
2. Systemic circulation	
a. arteries	
b. arterioles	
c. capillaries	
d. venules	
e. veins	
3. Pulmonary circulation	
a. pulmonary artery	
b. pulmonary veins	
c. lungs	
4. Lymphatic system	
5. Accessory organs	

LECTURE TOPICS	REFERENCES
B. Circulation survey	Element 9-10
1. Check carotid pulse	
2. Check pupil size	
C. Circulation management-cardiopulmonary resuscitation (CPR)	
1. One-man CPR	Element 10-14
2. Two-man CPR without equipment	Element 10-15
3. CPR on a child	
4. CPR on an infant	LOOP 2
5. Evaluation signs	Element 18
IV. Cardiac Related Problems	Will be reviewed again in Module VII
A. Coronary Thrombosis or Coronary Occlusion	LOOP 9
1. Cause	
a. coronary artery gradually narrows due to fatty deposits called plaques	
b. blood clot becomes lodged in the narrowed artery and shuts off blood supply to some portion of the heart	
c. this hypoxic (oxygen-starved) portion of the heart causes pain and sometimes disrupts the normal heartbeat due to its extreme sensibility	
d. without oxygen this hypoxic area of the heart becomes anoxic (without oxygen) and finally becomes necrotic (dies). Scar tissue then forms	
e. the severity of the heart attack depends on the area of tissue affected	
f. older persons in good health are better able to withstand a coronary because they can decrease the area of tissue affected with collateral circulation	

LECTURE TOPICS	REFERENCES
g. collateral circulation develops over many years as a means of supplementing a reduced blood flow through the coronary artery because of its narrowing	
2. Survey	
a. question patient and family concerning history	
b. gather vital signs	
3. Treatment	
a. comfort and attempt to reassure patient	
b. calm patient and any excited family members or bystanders	
c. place in a sitting or semi-reclining position	Element 3
d. administer oxygen with the highest percentage device the patient will tolerate	Task 3 LOOP 10, 11, 12
e. explain all steps to patient	
f. maintain body temperature	
4. Transport	
a. do not allow patient to move under own power	
b. transport to the hospital as quickly as possible using lights if necessary but no siren	
B. Angina Pectoris (Sub-Sternal Pain)	
1. Cause	
a. pain caused by hypoxic cardiac muscle	
b. hypoxic cardiac muscle caused by deficient oxygen supply	

LECTURE TOPICS	REFERENCES
c. deficient oxygen supply caused by decreased blood supply d. decreased blood supply caused by narrowing of the coronary artery called atherosclerosis e. angina attacks occur when the heart overexerts itself due to (1) emotional stress (2) physical exertion 2. Survey-the symptoms are the same as those of a coronary with the exception of a. pain caused by physical or emotional stress b. nitroglycerine will relieve the pain 3. Treatment-same as for a coronary patient 4. Transport a. do not allow patient to move under own power (1) two man lift from a bed (2) extremities lift from a chair to a stretcher (3) chair carry b. unless pain goes away, transport to the hospital under the same conditions as for a coronary patient C. Congestive Heart Failure or Chronic Heart Failure 1. Cause a. due to advanced age, illness, or prior heart attack, the left ventricle is not able to empty itself of blood with each contraction	

LECTURE TOPICS

REFERENCES

   b. the excess blood blocks up the pulmonary vein to the lungs and they begin to fill with fluid. This situation is called pulmonary edema
   c. the patient will drown unless this fluid is eliminated with medication to dehydrate the patient
2. Symptoms
   a. shortness of breath-patient is usually straining to breath
   b. fluid in lungs-results in noisy gurgling respiratory activity (rales)
   c. profuse perspiration
   d. peripheral cyanosis
   e. severe fatigue
   f. cannot lay down (almost always must remain rigidly seated)
3. Treatment
   a. administer oxygen in the highest concentration possible (the patient may reject any type of mask)
   b. elevate head and shoulders as high as the cot will allow
   c. reassure, comfort and explain all events concerning treatment and transportation
   d. maintain body temperature
4. Transport
   a. same as other cardiac-related problems
   b. maintain elevated head and shoulder position or patient may drown in pulmonary edema

BASIC LIFE SUPPORT AND PRIMARY SURVEY

LECTURE TOPICS	REFERENCES
DEMONSTRATION #1, 2, 3, 4, 5	
Show film and critique film "New Pulse of Life", Revised Edition	
V. Primary External Hemorrhage Survey	Element 16
A. Spurting blood-arterial bleeding	Task 1 Element 4
B. Pooling blood-extensive blood loss	Module 4 Task 1
C. External hemorrhage management	
1. Direct pressure	Element 2
2. Elevation	Element 3-4
3. Pressure points	Element 5-6
a. temporal artery	
b. facial artery	
c. carotid artery	
d. brachial artery	
e. radial artery	
f. femoral artery	
g. subclavian artery	
4. Tourniquet	
a. criteria for use-life or limb	
b. technique of application	Element 7-10
c. dangers of use	
DEMONSTRATION #6	
VI. Equipment Aids to Primary Survey and Management	Task 1
A. Oropharyngeal Airways	
1. Choosing the correct size	
2. Techniques of insertion	LOOP 5
3. Advantages and disadvantages	

LECTURE TOPICS	REFERENCES
B. Bag-valve mask	
1. Assembly of mask unit	
a. bag	
b. valve	
c. adult mask	
2. Technique of use	LOOP 5
a. IPPV (intermittent positive pressure ventilation)	
b. patient requiring breathing assist	
3. Percent oxygen administration	
a. mouth-to-mouth 15% oxygen	
b. bag-valve mask 21% oxygen	
c. bag-valve mask with oxygen attachment 50% oxygen	
d. bag-valve mask with oxygen attachment and reservoir tube 98% oxygen	
4. Attachments (identification and function)	
a. child mask	
b. extension tube	
c. right angle adapter	
DEMONSTRATION #7	
C. Demand-valve mask	
1. Assembly and function of unit	
2. Technique of use	
a. IPPV	
b. patient requiring a breathing assist	
c. combative patient	
3. Percent oxygen administration	
a. compressed air tank 21% oxygen	
b. compressed oxygen tank 98% oxygen	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

LECTURE TOPICS	REFERENCES

DEMONSTRATION #8, 9

D. Aspirator (suction unit) — LOOP 7
   1. Purpose of aspiration
   2. Types of units
      a. manifold - vacuum
      b. piston
      c. pressurized oxygen
      d. cartridge
      e. foot
   3. Flexible catheters (Whistle-tip, French)
      a. choosing the correct gauge (size)
      b. technique without an airway
      c. technique with an airway
      d. advantages and disadvantages
   4. Rigid catheter (tonsil-tip)
      a. technique without an airway
      b. technique with an airway
      c. advantages and disadvantages

DEMONSTRATION #10

E. Cardiopulmonary resuscitation during evacuation and transport
   1. Two-man CPR
   2. Evacuation phase of CPR
      a. time constraints
         (1) never stop compressions for more than 5 seconds
         (2) if compressions are interrupted, do CPR for one minute before moving patient

LECTURE TOPICS	REFERENCES
(3) always stop and start CPR when interrupting on a ventilation b. operation of a portable stretcher c. operation of a multi-level stretcher d. two-man lift (discuss) e. loading into an ambulance DEMONSTRATION #11 and #12	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

DEMONSTRATION #1: UNWITNESSED CARDIAC ARREST ONE-MAN CPR

Using an adult manikin, demonstrate the following skills:

1. Establish unresponsiveness by:
   - A. Shaking victim
   - B. Asking "Are you OK?"
   - C. Allow 5-10 seconds for response
2. Position patient's head and neck to establish airway. Show:
   - A. Placement of hand on neck
   - B. Placement of hand on forehead
3. Check for breathing by:
   - A. Looking, listening, and feeling for air exchange (show proper procedures)
   - B. Allow a minimum of 10 seconds to evaluate
4. If breathing is not present:
   - A. Make airtight seal over patient's mouth
   - B. Pinch patient's nostrils
   - C. Blow into patient's mouth until chest rises
5. Ventilate the patient:
   - A. Four (4) deep breaths (total)
   - B. Checking for rise and fall of chest for each breath
6. Check for pulse using carotid artery
   - A. Do not reach across patient, use the same side of the neck as the rescuer
   - B. Allow a minimum of 10 seconds to evaluate pulse
7. If pulse is absent:
   - A. Locate hand position on sternum
   - B. Show technique(s) to do this
   - C. Middle of lower half of sternum
8. Place hands on sternum:
   - A. Fingers up off of chest
   - B. Pressure applied directly over sternum
   - C. Heel of hand perpendicular to long axis of sternum
9. Compress chest:
   - A. 1-1/2 - 2 inches
   - B. 15 times in a smooth motion (equal time spent on compression and release)
   - C. Rate: 80/minute

BASIC LIFE SUPPORT AND PRIMARY SURVEY

DEMONSTRATION #2: UNWITNESSED CARDIAC ARREST - TWO-MAN CPR

Using an adult manikin, demonstrate the following skills:

1. Repeat steps 1 through 8 in Demonstration #1.

2. Compress chest:

   A. 1-1/2 to 2 inches
   B. 60/minute in a smooth motion
   C. One compression per second

3. Interpose ventilations with compressions:

   A. 1 to 5
   B. Do not pause for ventilation
   C. If doing ventilation
      (1) check pulse
      (2) check pupils

4. Request shift from first rescuer:

   A. Use mnemonic "Change on three next time"
   B. Switch on compression #3
   C. Do not skip compression

DEMONSTRATION #3: AIRWAY MANAGEMENT (NO SUSPECTED CERVICAL SPINE INJURY)

Using an adult manikin, demonstrate the following skills:

1. Establish unresponsiveness by:

   A. Shaking patient
   B. Asking "Are you OK?"
   C. Allow a minimum of 5-10 seconds for response

2. Position patient's head and neck to establish an airway. Show:

   A. Placement of hand on neck
   B. Placement of hand on forehead

3. Check for breathing by:

   A. Looking, listening, and feeling for air exchange
   B. Allow a minimum of 10 seconds to evaluate patient's breathing

4. If breathing is absent:

   A. Make airtight seal over patient's mouth
   B. Pinch patient's nostrils
   C. Blow into patient's mouth until chest rises

DEMONSTRATION #3: (CONTINUED)

5. If airway is blocked:
    - A. Displace jaw using triple airway maneuver (demonstrate technique)
    - B. Attempt to ventilate

6. If ventilation is ineffective:
    - A. Rotate victim away from rescuer
    - B. Placing knee under patient's shoulder
    - C. Open jaw using cross finger technique
    - D. Sweep out mouth with rescuer's fingers

7. Return patient to original position and attempt to ventilate patient.

8. If still blocked:
    - A. Roll patient toward you
    - B. Tilt head back
    - C. Give four (4) quick blows between shoulder blades with palm of hand

9. Return patient to original position and attempt to ventilate.

10. If still blocked, attempt to force obstruction down windpipe.

11. Repeat steps 8-10.

DEMONSTRATION #4: AIRWAY MANAGEMENT (SUSPECTED CERVICAL SPINE INJURY)

Using an adult manikin, demonstrate the following skills:

1. Establish unresponsiveness by:
    - A. Shaking patient
    - B. Asking "Are you OK?"
    - C. Allow a minimum of 5-10 seconds for response

2. Position patient's head and neck in a neutral position. Show:
    - A. Placement of hand on neck
    - B. Placement of hand on forehead

3. Check for breathing by:
    - A. Looking, listening, and feeling for air exchange
    - B. Allow a minimum of 10 seconds to evaluate patient's breathing

4. If breathing is absent:
    - A. Make airtight seal over patient's mouth
    - B. Pinch patient's nostrils
    - C. Blow into patient's mouth until chest rises

DEMONSTRATION #4: (CONTINUED)

5. If airway is blocked:

   A. Displace jaw using thumb in mouth (demonstrate technique)
   B. Attempt to ventilate

6. If ventilation is ineffective:

   A. Open jaw using cross finger technique (head remains in neutral position)
   B. Sweep out mouth with rescuer's fingers

7. Attempt to ventilate patient.

8. If still blocked, hyperextend head and neck slightly.

9. Attempt to ventilate.

10. If still blocked, attempt to force obstruction down windpipe.

11. Repeat steps 8-11.

DEMONSTRATION #5: INFANT RESUSCITATION

Using an infant manikin, demonstrate the following skills:

1. Establish unresponsiveness of infant:

   A. By shaking and/or tickling feet
   B. By asking "Are you OK?"
   C. Allow 5-10 seconds for response

2. Position infant's head and neck to establish airway

   A. Show position of hands on head and neck
   B. Hyperextend the neck (but not as much as for an adult)

3. Check breathing by:

   A. Looking, listening, and feeling for air exchange
   B. Allow a minimum of ten seconds to evaluate--but not more than 12 seconds

4. If breathing is absent:

   A. Make airtight seal over infant's mouth and nose
   B. Blow small puffs of air into infant's mouth

5. Ventilate the infant

   A. Using four (4) quick small puffs
   B. Check for rise and fall of chest with each breath

BASIC LIFE SUPPORT AND PRIMARY SURVEY

DEMONSTRATION #5: (CONTINUED)

6. Check pulse
   - A. Using carotid or
   - B. Apical artery
   - C. Allow a minimum of 10 seconds to evaluate pulse--but not more than 12 seconds

7. If pulse is absent
   - A. Determine location of hands
   - B. Middle of sternum

8. Using tips of two fingers
   - A. Compress the chest 1/2 to 3/4 of an inch
   - B. Rate--100 times per minute

9. Interpose ventilation
   - A. After every 5 compressions at a rate of 20 per minute
   - B. With no pause

DEMONSTRATION #6: CONTROL OF BLEEDING

Using either an adult manikin or a student, demonstrate the following skill. If you use a student as a victim, use make-up to simulate the bleeding.

1. Do primary survey of patient and:
   - A. Treat any life-threatening problems (first)
   - B. Maintain an open airway

2. Determine location of wound:
   - A. Cut away clothing if necessary
   - B. Do not disturb any dressing already applied
   - C. Do not touch wound area if not necessary (to avoid contamination)

3. Apply direct pressure over wound by:
   - A. Placing gauze dressing or clean cloth over wound
   - B. If no dressing available, use hand
   - C. Apply pressure firmly but not so great as to cause other injuries
   - D. Apply more dressing if dressing becomes blood soaked--do not remove soaked dressing

4. If bleeding does not stop and is in an upper extremity:
   - A. Elevate extremities above heart level
   - B. To aid clotting process

DEMONSTRATION #6: (CONTINUED)

5. If bleeding does not stop, locate supply artery:

    A. Apply pressure to artery
    B. With fingers and hand
    C. (Note: May want to demonstrate how to apply pressure at each of these locations)
        (1) brachial artery - arm
        (2) femoral artery - leg
        (3) carotid artery - neck
        (4) temporal artery - scalp
        (5) facial artery - face
        (6) subclavian artery - chest

    Be sure to indicate how much pressure is required at each location.

6. If bleeding does not stop, apply tourniquet, either:

    A. Commercial if available, or
    B. Makeshift; if makeshift, demonstrate with proper materials, for example:
        (1) necktie
        (2) pencil
        (3) clean cloth
    C. Apply as close as possible to wound
        (1) place rolled-up cloth over main artery
        (2) knot necktie
        (3) insert pencil under/or in knot
        (4) tighten only enough to stop bleeding
    D. Attach notation to patient
    E. Remind students to use tourniquet as last resort

DEMONSTRATION #7: ADMINISTRATION OF OXYGEN

Using an "E" oxygen tank with regulator, flow meter, nasal cannula, and rebreather mask, demonstrate the following skills:

1. Observe for "100% USP" marking

2. Remove protective cap from tank

3. Application of regulator and flow meter to oxygen tank:

    A. Flow gauge in "off" position
    B. Align pin index safety system
    C. Maintain alignment with one hand while tightening screw and handle with the other hand

4. Connect nasal cannula to oxygen source

5. "Crack" the tank and adjust flow

DEMONSTRATION #7: (CONTINUED)

6. Apply the nasal cannula to other instructor or student:
   - A. Explain all procedures to simulated patient
   - B. Note position of nasal prongs
   - C. Adjust cannula for good fit

7. Remove nasal cannula and turn off oxygen

8. "Bleed" gauge and return gauge to off position

9. Connect rebreather mask to oxygen source

10. "Crack" tank and adjust flow

11. Apply mask to other instructor or student:
    - A. Explain all procedures to simulated patient
    - B. Achieve best fit possible with plastic mask covering nose and mouth
    - C. Adjust straps to maintain mask position

12. Remove mask from patient and turn off oxygen

13. "Bleed" gauge and return gauge to off position

DEMONSTRATION #8: USE OF OROPHARYNGEAL AIRWAY AND BAG-VALVE MASK

Use an adult manikin, demonstrate the following skills:

1. Insertion of oropharyngeal airway:
   - A. Select airway of correct size (measure from lips to pharynx)
   - B. Open mouth using cross finger maneuver
   - C. Turn airway so tip is facing upward (toward roof of patient's mouth)
   - D. Insert into mouth
   - E. When airway is half way in, rotate 180 degrees
   - F. Insert airway the rest of the way

2. Use of the bag-valve mask
   - A. Choose proper size mask
   - B. Properly insert oropharyngeal airway
   - C. Mold mask over patient's mouth and nose
   - D. Clamp mask to face using either:
     - (1) "C" clamp - thumb at the nose part and index finger at the chin part of mask, and middle, ring, and little fingers pulling patient's chin
     - (2) Palm over center of mask (forcing down on mouth) with fingers pulling patient's chin upward and backward
   - E. Tilt patient's head back
   - F. Squeeze bag until chest rises
   - G. Release bag and observe for exhalation (chest falling)

DEMONSTRATION #9: USE OF DEMAND-VALVE UNIT FOR IPPV

Using an adult manikin, demonstrate the following:

1. Open oxygen cylinder.
2. Position mask. Show:
    - A. Triangular slope of mask
3. Clamp Mask: Show two grips mentioned in Demonstration #8.
4. Tilt patient's head back.
5. Depress button until chest rises.
6. Release button, allow patient to exhale.
7. Point out the dangers of use of the demand-valve unit:
    - A. Over inflated lungs
    - B. Inflated stomach and ruptured wall

DEMONSTRATION #10: ASPIRATING

Using an infant manikin, demonstrate the following skills:

1. Connect suction thumb-control catheter to tubing.
2. Turn aspirator on.
3. Place catheter tip in water bottle and check operation of unit.
4. Determine proper length of insertion.
5. Using cross-fingered technique, open manikin's mouth.
6. Insert thumb control catheter into manikin's mouth.
7. Place thumb over thumb control.
8. Slowly, in a rotating motion, remove thumb control catheter from victim's mouth.
9. Reinsert thumb control catheter into nasal-pharyngeal area and repeat steps 6 and 7.
10. Flush catheter with clear water.
11. Discard after use.
12. Remove and clean suction bottle.

DEMONSTRATION #11: USE OF THE MULTI-LEVEL STRETCHER

With a multi-level stretcher and the aid of an assistant, demonstrate the following:

1. Raising the stretcher. Show:
    - A. Location of handles to release mechanism
    - B. Position of hands on stretcher
    - C. Position of foot to stabilize stretcher
2. Lowering the stretcher. Show:
    - A. Position of knee to support stretcher
    - B. Position of foot to stabilize stretcher
3. Raising and lowering the head of the stretcher. Show:
    - A. Position of handle to release head
    - B. Various limits of elevation
4. Lifting the total stretcher. Show:
    - A. Position of hands on lower bar of stretcher

DEMONSTRATION #12: TWO-MAN/THREE-MAN LIFT

Using a member of the class weighing between 150 and 200 pounds, demonstrate the following skills by employing the assistance of either another instructor or a student:

1. Explain procedure to patient by informing him of:
    - A. Who is going to lift him
    - B. That you will place your hands under him to lift
    - C. Where you are going to place him
2. Ask the patient to place his arms on his stomach.
3. Place hands and arms under patient:
    - A. Both rescuers on the same side
    - B. Rescuer at patient's head cradles head and shoulders with one arm and presses other arm under patient's body at the beltline
    - C. Other rescuer places one arm under patient's body at the beltline and the other arm under the knees
4. Lift together:
    - A. Ask co-worker if he is ready
    - B. Give command to lift (type of command must be based on situation; however, a nod of the head is usually sufficient)

DEMONSTRATION #12: (CONTINUED)

5. Roll patient toward rescuer's chest.

6. Place patient on ambulance cot or other surface, maintaining level position.

7. Demonstrate three-man lift in same manner:

   A. Rescuer at head of patient - same hand position
   B. Rescuer in middle of patient - supports mid-section only
   C. Third rescuer supports lower extremities

BASIC LIFE SUPPORT AND PRIMARY SURVEY

PRACTICE SESSION FOR STUDENTS

After the lecture and demonstrations, students should be given the opportunity to practice their skills. The practice session can be conducted in one of several ways:

1. Students can be given the skill evaluation sheets as a job aid or to guide their practice, or they can use their notes taken during the lecture and demonstration. Students should be informed as to what materials and job aids they will be permitted to use.

2. If assistant instructors are available, they can be assigned to groups of students to ensure that the students understand the skill and procedures. If assistant instructors are used, the instructor should train and evaluate the assistant instructors on their ability to perform the required skills prior to the practical exercise.

3. Depending upon the number of students and available equipment, the students should be separated into small groups. Each group can be assigned a skill to practice covering all skill objectives, or all groups can practice the same skill at the same time.

4. Students in the group should be asked to help other students if assistant instructors are not available. Often times, students can communicate with other students in a more efficient manner than the instructor.

During the practice session, the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills. However, practice time should not exceed three hours.

2. Should assist any and all students during their practice to:

   A. Correct any incorrect procedures, point out errors.
   B. Provide hints on ways to recall the correct procedures; e.g., A, B, C's of Basic Life Support or error avoidance behavior.

3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedure with them--repeating the demonstrations.

4. Should be careful not to occupy too much of the student's time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

The students have the following responsibilities:

1. To practice skills until they feel comfortable with the procedures.

2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

PRACTICE SESSION #1

Divide the class into three groups

Groups 1 and 2

A. Equipment
  1. Adult manikin
  2. Alcohol swabs
  3. Blanket

B. Skills
  1. Primary survey and management of a single patient
  2. Airway establishment on a patient with no cervical spine injury
  3. Airway establishment on a patient with a cervical spine injury
  4. Mouth-to-mouth ventilations
  5. Mouth-to-nose ventilations
  6. Mouth-to-stoma ventilations
  7. One-man CPR
  8. Two-man CPR
  9. Infant CPR

Group 3

A. Equipment
  1. Infant manikin
  2. Alcohol swabs
  3. Blanket

B. Skills
  1. Primary survey and management of a single patient
  2. Airway establishment
  3. Mouth-to-mouth and nose ventilations
  4. Infant CPR

PRACTICE SESSION #2

Divide the class into three practice groups

Group 1

A. Equipment
  1. Adult manikin
  2. Alcohol swabs
  3. Oropharyngeal airways
  4. Aspirator (suction unit)
  5. Rigid suction catheters
  6. Flexible suction catheters
  7. Blanket

BASIC LIFE SUPPORT AND PRIMARY SURVEY

PRACTICE SESSION #2 (CONTINUED)

B. Skills
1. Primary survey and management of a single patient
2. Selection and insertion of an oropharyngeal airway
3. Operation of an aspirator
4. Aspiration with a rigid catheter
5. Aspiration with a flexible catheter

Group 2

A. Equipment
1. Adult manikin
2. Alcohol swabs
3. Oropharyngeal airways
4. Bag-valve mask unit
5. Oxygen supply tubing
6. Oxygen tank ("E" cylinder)
7. Reduction valve
8. Demand valve with mask
9. Blanket

B. Skills
1. Primary survey and management of a single patient
2. Selection and insertion of an oropharyngeal airway
3. Bag-valve mask ventilation
4. Oxygen administration through a bag-valve mask
5. Demand-valve mask ventilation

Group 3

A. Equipment
1. Student posing as a patient
2. Bag-valve mask
3. Oxygen tank ("E" cylinder)
4. Demand-valve with mask
5. Dressing (4"x4"), ABD dressing
6. Tourniquet
7. Cravats

B. Skills
1. Bag-valve mask breathing assist to a patient with difficulty in breathing
2. Demand-valve mask breathing assist to a patient with difficulty in breathing
3. Oxygen administration with a demand-valve mask to a combative patient
4. Control of severe external hemorrhage
5. Application of a tourniquet

BASIC LIFE SUPPORT AND PRIMARY SURVEY

PRACTICE SESSION #3

Divide the class into groups of two

Equipment

1. Gauze dressings
2. Multi-trauma dressings
3. Tourniquets

Skills - The instructor will indicate an area of the body which is experiencing severe hemorrhage and tell the student to control the bleeding, i.e., lacerated radial artery.

1. Control of severe hemorrhage using direct pressure
2. Control of severe hemorrhage using elevation
3. Control of severe hemorrhage using pressure points
4. Control of severe hemorrhage using tourniquet

PRACTICE SESSION #4

Divide class into two practice groups

Group 1 - 2 Students Active in Exercise

- A. Equipment
  1. Adult manikin
  2. Alcohol swabs
  3. Jump kit with equipment
  4. Blanket
  5. Bag-valve mask
  6. Oxygen tank ("E" cylinder)
  7. Demand-valve
- B. Skills
  1. Two-man CPR with bag-valve
  2. Two-man CPR with bag-valve and oxygen
  3. Two-man CPR with demand-valve

Group 2 - 4 Students Active in Exercise

- A. Equipment
  1. Adult manikin
  2. Alcohol swabs
  3. Jump kit with equipment
  4. Portable stretcher with straps
  5. Multi-level stretcher with straps
  6. CPR board
  7. Ambulance

BASIC LIFE SUPPORT AND PRIMARY SURVEY

PRACTICE SESSION #4 (CONTINUED)

Group 2 - 4 (Continued)

B. Skills
   1. Operation of a portable stretcher
   2. Operation of a multi-level stretcher
   3. Evacuation of a patient with portable and multi-level stretcher while performing CPR
      a. Up or down a flight of stairs
      b. Loading into an ambulance
      c. While in an ambulance
      d. Unloading from an ambulance

Student's Name ____________________

	PASSED	FAILED
One Rescuer	______	______
Two Rescuers	______	______

SKILL EVALUATION #1 - UNWITNESSED CARDIAC ARREST - ONE AND TWO RESCUERS

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate, on a practice manikin, the procedure for management of an unwitnessed cardiac arrest to the satisfaction of the instructor:

_____A. Establish unresponsiveness of the victim by shaking and shouting "Are you OK?" allowing adequate time for response (5-10 seconds).

_____B. Position victim's head and neck to establish an open airway.

_____C. Check breathing using look, listen, and feel. Allow a minimum of five seconds to evaluate breathing.

_____D. If breathing is absent, make an airtight seal over the patient's mouth, pinch the nostrils, and blow into patient's mouth until the chest rises.

_____E. Ventilate the patient four (4) times with deep breaths, with the student glancing to check the rise and fall of the chest for each breath.

_____F. Check the carotid pulse, being sure not to reach across the patient to do so. Allow a minimum of ten seconds to evaluate the pulse. Check pupils for size and reactivity.

_____G. If pulse is absent, determine location for hands to be placed on the sternum (middle of the lower half of the sternum).

_____H. Place hands on sternum, being sure that fingers are not resting on the ribs, and that pressure will only be applied directly on the sternum with the heel of the hand.

_____I. Compress the chest 1-1/2 to 2 inches fifteen (15) times to insure that the pressure is in a rhythmic motion, and not a sharp jerk compression. (Rate should be at 80 per minute) Rescuer should say mnemonic.

_____J. Continue procedure by alternating two (2) quick ventilations with each fifteen compressions.

_____K. After four (4) cycles, check carotid pulse and pupil reaction. Second rescuer will enter and assist the first.

_____L. Change rate of compression to sixty per minute. Rescuer should say mnemonic.

SKILL EVALUATION #1 (CONTINUED)

_____M. Interpose ventilations at a ratio of five to one (5:1), being sure not to pause for the ventilations. Rescuer doing ventilation should check pulse and pupil status.

_____N. Rescuer doing compressions should request to shift places with the first rescuer.

_____O. Rescuer should then switch, being sure not to skip any compressions. (Two-man CPR is continued and switching occurs to the satisfaction of the instructor).

Student's Name ____________________

Passed ______________ Failed __________

SKILL EVALUATION #2 - MANAGEMENT OF OBSTRUCTED AIRWAY (NO CERVICAL SPINE INJURY)

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a practice manikin the procedure for management of an obstructed airway to perfection as outlined to the satisfaction of the instructor.

_____A. Establish unresponsiveness of the victim by shaking and shouting "Are you OK?" allowing 5-10 seconds for response.

_____B. Position victim's head and neck to establish an open airway.

_____C. Check breathing using look, listen, and feel. Allow a minimum of five seconds to evaluate breathing.

_____D. If breathing is absent, make an airtight seal over the victim's mouth, pinch the nostrils, and blow into the victim's mouth until the chest rises.

_____E. If the airway is blocked, further displace the jaw using the triple airway maneuver, and attempt to ventilate the patient. (If ventilation is successful, then continue sequence for unwitnessed cardiac arrest.)

_____F. If the airway is still blocked, then rotate victim away, placing knee under the victim's shoulder.

_____G. Open the jaw using the cross-finger technique, and sweep the victim's mouth out with fingers.

_____H. Return victim to original position and attempt to ventilate the victim. (If the ventilation is successful, then continue sequence for unwitnessed cardiac arrest.)

_____I. If airway is still blocked, then roll victim toward you, tilt head back as if opening airway, and give four quick blows between the shoulder blades with the palm of the hand. Sweep victim's mouth out with the fingers.

_____J. Return victim to original position, and attempt to ventilate the victim. (If ventilation is successful, then continue sequence for unwitnessed cardiac arrest.)

_____K. If airway is still blocked, the steps should be repeated continuously.

Student's Name ____________________

Passed ____________Failed__________

SKILL EVALUATION #3 - MANAGEMENT OF OBSTRUCTED AIRWAY (CERVICAL SPINE INJURY)

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a practice manikin, the procedure for management of an obstructed airway to the satisfaction of the instructor.

_____A. Establish unresponsiveness of the victim by shaking and shouting "Are you OK?" allowing 5-10 seconds for response.

_____B. Position victim's head and neck in the neutral position.

_____C. Check breathing using look, listen, and feel. Allow a minimum of five seconds to evaluate breathing.

_____D. If breathing is absent, make an airtight seal over the victim's mouth, pinch the nostrils, and blow into the victim's mouth until the chest rises.

_____E. If the airway is blocked, further displace the jaw using the thumb in the mouth to pull the jaw forward, and attempt to ventilate the patient. (If ventilation is successful, then continue sequence for unwitnessed cardiac arrest.)

_____F. If the airway is still blocked, open the jaw using the cross-finger technique, and sweep the victim's mouth out with the fingers. (Keep head in neutral position.) Attempt to ventilate the victim. (If ventilation is successful, then continue sequence for unwitnessed cardiac arrest.)

_____G. If airway is still blocked, tilt head back slightly and attempt to ventilate the victim. (If ventilation is successful, then continue sequence for unwitnessed cardiac arrest.)

_____H. If airway is still blocked, the steps should be repeated continuously.

Student's Name________________________

Passed________________Failed__________

SKILL EVALUATION #4 - INFANT RESUSCITATION

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on an infant practice manikin, the procedure for infant resuscitation to the satisfaction of the instructor.

_____A. Establish unresponsiveness of the infant by shaking and/or tickling his/her feet and shouting "Are you OK?" allowing 5-10 seconds for response.

_____B. Position infant's head and neck to establish an airway, remembering not to hyperextend the neck as much as for an adult.

_____C. Check breathing using look, listen, and feel. Allow a minimum of ten seconds to evaluate breathing.

_____D. If breathing is absent, make an airtight seal over the infant's mouth and nose, and blow small puffs of air into the infant's mouth.

_____E. Ventilate the infant with four (4) quick puffs, with the student glancing to check the rise and fall of the chest for each breath.

_____F. Check for carotid or apical pulse. Allow a minimum of ten seconds to evaluate the pulse.

_____G. If pulse is absent, determine location for hands to be placed on the sternum (middle of the sternum).

_____H. Using the tips of two fingers, compress the chest 1/2 to 3/4 inches at a rate of 100 times per minute.

_____I. Ventilation should be interposed after every five ventilations with no pause.

Student's Name________________________

Passed_______________ Failed_________

Leg________________ Arm______________

SKILL EVALUATION #5 - CONTROL OF BLEEDING

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student, the four steps of external hemorrhage control to the satisfaction of the instructor.

_____A. Conducts primary survey (treats life-threatening problems).

_____B. Cuts clothing away from wound area (if appropriate).

_____C. Applies direct pressure over wound with dressing by placing hand over dressing.

_____D. Elevates extremity, still applying direct pressure.

Instructor, after 1/2 minutes time, says, "Bleeding has not stopped."

_____E. Locates supplying artery, for leg, locates femoral artery and for arm, locates brachial artery.

For leg only

_____F. Places heel of hand on inside of groin and applies pressure downward with heel of hand toward the bone.

For arm only

_____G. Holds patient's arm at right angle to the body with palm up; place palm of hand between patient's elbow and armpit, presses fingers in groove.

Instructor, after 1/2 minutes time, says, "Bleeding has not stopped."

_____H. Wraps tourniquet around extremity as close to wound as possible.

_____I. Places rolled-up cloth over main artery under tourniquet material

_____J. Knotts tourniquet material.

_____K. Inserts rod-like device in knot.

_____L. Tightens only enough to stop bleeding.

_____M. Attaches note to patient indicating tourniquet (T.K.) has been applied and time of application.

Student's Name ____________________

	Passed	Failed
Oropharyngeal Airway	___________	___________
Bag-Valve Mask	___________	___________
Demand-Valve	___________	___________

SKILL EVALUATION #6 - INSERTION OF OROPHARYNGEAL AIRWAY, USE OF BAG-VALVE MASK, USE OF DEMAND-VALVE UNIT

(Please check those elements which are done incorrectly, out of sequence or omitted.)

The student will demonstrate on an adult manikin, with the assistance of a second student performing chest compressions, the use of the oropharyngeal airway, bag-valve mask, and demand-valve unit to the satisfaction of the instructor.

OROPHARYNGEAL AIRWAY

_____A. Select airway of correct size (measure lips to pharynx).

_____B. Open mouth using cross-finger technique.

_____C. Insert airway into mouth such that tip of airway faces roof of patient's mouth.

_____D. Once airway is inserted halfway, rotate 180 degrees and insert the total way.

BAG-VALVE MASK

_____A. Select mask of correct size.

_____B. Insert oropharyngeal airway (if not already done).

_____C. Position mask such that pointed end is over bridge of nose and mold mask over patient's mouth and nose.

_____D. Clamp mask to face using either:
  1. "C" clamp, or
  2. Palm over center of mask grip

_____E. Hyperextend head and neck.

_____F. Squeeze bag until chest rises.

_____G. Release bag and observe for chest falling.

SKILL EVALUATION #6 - (CONTINUED)

DEMAND-VALVE UNIT

_____A. Open oxygen tank and pressurize regulator.

_____B. Insert oropharyngeal airway (if not already done).

_____C. Position mask such that pointed end is over edge of nose and mold mask over patient's mouth and nose.

_____D. Clamp mask to face using "C" clamp.

_____E. Hyperextend head and neck.

_____F. Depress button until chest rises.

_____G. Release button and observe for chest falling.

CHEST COMPRESSIONS

_____A. Interpose ventilations at a ratio of five to one (5:1), being sure not to pause for the ventilations. Rescuer doing ventilation should check pulse and pupil status.

_____B. Rescuer doing compressions should request to shift places with the first rescuer.

_____C. Rescuer should then switch, being sure not to skip any compressions. (Two-man CPR is continued and switching occurs to the satisfaction of the instructor.)

Note: Care should be taken when using the demand-valve with adult manikin since it is possible to blow out the lungs of the manikin using the demand-valve. It is suggested that the application of oxygen using the demand valve be simulated.

Student's Name____________________

Passed____________Failed____________

SKILL EVALUATION #9 - ADMINISTRATION OF OXYGEN

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The rescuer will set up oxygen delivery system and demonstrate the administration of oxygen to an adult patient experiencing dyspnea as outlined and to the satisfaction of the instructor:

_____A. Visually observe for "100% USP" marking

_____B. Remove protective cap from tank

_____C. Apply regulator and flow meter to tank with flow gauge in off position

Note to Instructor: Provide nasal cannula and mask and require students to select best device based on patient's need for oxygen.

_____D. Determine best oxygen administration device (Mask should be selected. The students should tell the instructor why selection was made.)

_____E. "Crack" the tank and adjust regulator to deliver 6-8 liters per minute

_____F. Explain procedures to patient

_____G. Apply mask to patient by forming a good seal and adjusting straps

Note to Instructor: Inform student that the patient is resisting the mask and says it feels as if he/she is suffocating.

_____H. Remove mask from patient's face immediately

_____I. Select nasal cannula as next best method available and connect to regulator

_____J. Adjust regulator to deliver 6-8 liters per minute

_____K. Explain procedures to patient

_____L. Apply nasal cannula to patient, placing prongs in proper position and by adjusting cannula for a comfortable patient fit

Note to Instructor: Instruct student to stop administration of oxygen and store equipment for future use.

_____M. Remove cannula from patient's face

_____N. Turn off oxygen and disconnect cannula tubing from regulator

_____O. "Bleed" gauge and return gauge to off position

Student's Name________________________

Passed____________Failed____________

SKILL EVALUATION #10 - TWO-MAN AND THREE-MAN LIFTS

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The rescuer will demonstrate, with the assistance of one or two fellow students, the two-man and three-man lifts on a 150 to 200 pound patient as outlined and to the satisfaction of the instructor:

_____A. Explain procedure to patient

_____B. Place hands and arms in proper position under patient

_____C. Lift smoothly and in a manner coordinating with other students

_____D. Roll patient toward rescuer's chest

_____E. Place patient on ambulance cot, maintaining level position

BASIC LIFE SUPPORT AND PRIMARY SURVEY

TASK 1

PRIMARY SURVEY & MANAGEMENT OF A SINGLE PATIENT

ELEMENTS	EXPLANATION
	Assumes the rescuer has arrived at the scene, the ambulance vehicle is parked out of the way but as close to the patient(s) as possible, and the rescuer can see the patient to be surveyed. It also is assumed that if there is more than one patient, a patient has been selected to be treated.
1. Move to the side of patient to be surveyed. (If patient is standing or walking, have patient sit or lay down if possible, and avoid further movement.)	
2. Make visual survey of patient, observing for the following: A. Severe bleeding B. Gross deformities C. Obvious mechanisms of injury	This visual survey should be merely a quick glance. Time should not be wasted at this point.
3. Determine if patient is conscious and can communicate by illiciting a response by speaking to patient and observing activity. (If patient is unconscious, go to Task "Airway Maintenance and Resuscitation.")	Ask patient if he/she can hear you. Ask patient his/her name. Observe to see if patient moves at all.
4. If patient is conscious, check for any severe bleeding. (If bleeding is severe, go to LOOP 8.)	If blood loss is to become immediately life-threatening to the patient that blood loss must be in very large volume; and this generally occurs only upon the completed severance of a major artery (e.g., the brachial or femoral arteries). In an adult male patient, one to two quarts of blood loss in a short period of time will result in a very serious life-threatening condition. While in a child patient, blood loss of one to two pints is equally as serious. At this point in the survey, the only blood loss which should be considered or treated is a hemorrhage of this

BASIC LIFE SUPPORT AND PRIMARY SURVEY

TASK 1 (CONTINUED)

PRIMARY SURVEY & MANAGEMENT OF A SINGLE PATIENT

ELEMENTS	EXPLANATION
	magnitude. The rescuer should not be side-tracked into worrying about or treating any blood loss of lesser nature.
5. Determine if the patient has any life-threatening or serious problems which are evident (sucking chest wounds, severe evisceration, severe bleeding in neck region). (If serious problem is present, go to appropriate task for treatment.) (Go to Task "Secondary Survey of Communicative Patient" Module II.)	It should be apparent that any serious injury which is a threat to life and obvious, should be treated before secondary survey is begun. (A serious wound is defined as a perforating or penetrating wound to the neck, chest, or abdomen.)
6. If patient is conscious and experiencing substernal chest pain, go to LOOP 9.	
7. If patient cannot communicate, go to Task "Secondary Survey of Non-Communicative Patient." (If patient can communicate, go to Task "Secondary Survey of Communicative Patient" Module II.)	Being able to communicate does not necessarily indicate speech is necessary. If a victim can indicate pain in some manner, (e.g., nodding head) this is considered communication.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

TASK 2

AIRWAY MAINTENANCE AND RESUSCITATION

ELEMENTS	EXPLANATION
	Assumes patient is unconscious adult, and the following equipment is available: A. Oropharyngeal airways (assorted sizes) B. Suction device (battery operated or by the vehicle's engine manifold) C. #10, #14, and #18 sterile individually wrapped rubber or soft plastic whistle tip suction catheters D. Plastic tonsil suction tip catheter E. One quart of distilled water; F. Oxygen pressure regulator with flow meter (vertical) G. Oxygen connector tubing H. Bag-valve mask ventilation device (with reservoir tube) I. Oxygen tank. Assumes there are two rescuers.
1. Kneel at side of patient.	
2. Check for cervical spine injury by placing hand on back of patient's neck to feel for any protrusion. (If patient has cervical spine injury, LOOP 1) (If patient is an infant, LOOP 2)	
3. Kneeling at the side of the patient, hyperextend the patient's neck by placing one hand under the neck and the other hand on the forehead.	Hyperextension of the neck in this manner should force the jaw to jut upward, pulling the tongue out of the airway. This technique is effective in over 85% of the population.
4. Quickly observe patient's airway for any obvious obstruction (e.g., blood or food). (If an obvious obstruction is visible, LOOP 3).	This observation should be nothing more than a glance into the patient's mouth. Time should not be spent searching for something which may not be there.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

TASK 2 (CONTINUED)

AIRWAY MAINTENANCE AND RESUSCITATION

ELEMENTS	EXPLANATION
5. Check for breathing by bending over patient and placing ear close to patient's mouth and nose. Turn head so that chest movements can be observed. (If patient is breathing, go to Element #16.) (If a laryngectomy patient, LOOP 4)	This technique is known as look, listen, and feel. Rescuer can hear and feel air exchange and can see chest movements. Ear should be less than one inch from mouth and nose.
	Assumes patient is an adult.
6. If no breathing is present, pinch nose closed with hand on patient's forehead and maintain airway.	
7. Form airtight seal by placing mouth over patient's mouth. (If patient is a child or infant, form airtight seal by placing mouth over patient's mouth and nose.) (If it is impossible to get airtight seal due to facial injury, LOOP 6.)	An alternate method of ventilation may include the use of the bag-valve mask and oropharyngeal airway. (LOOP 5)
8. Ventilate patient four times as quickly as possible, removing mouth from patient after each ventilation to allow the escape of the air. (If airway is obstructed, LOOP 7.)	Air should be exhaled into victim until the chest rises. In a child, this would only require half of a normal adult breath. An infant would only require small puffs of the cheeks. Amount of exhaled air required varies with the size of the patient.
9. While performing the last ventilation in this initial group, palpate the carotid artery to determine if there is any pulse by placing three fingers on the windpipe (trachea) midway between the chin and the top of the breastbone (sternum) and then sliding them approximately one inch to the side.	Palpate carotid artery on the same side as that of the rescuer. Artery must be palpated gently or pulse will be obliterated, which will result in a patient receiving cardiac compression when compressions are not necessary. Palpation will be facilitated if neck remains hyperextended.
10. If carotid pulse is present, continue IPPV at a rate of 12-20 times per minute. (Then go to Element #16.)	If patient is an adult, the rate should be 12 times per minute; a child or infant would require a rate of 20 times per minute. Rate required varies with

BASIC LIFE SUPPORT AND PRIMARY SURVEY

TASK 2 (CONTINUED)

AIRWAY MAINTENANCE AND RESUSCITATION

ELEMENTS	EXPLANATION
11. If no carotid pulse is present, and patient is an adult, locate the middle of the lower half of the sternum by placing the middle finger of one hand on the midline of the abdomen and the middle finger of the other hand on the midline of the patient's neck. Then slide both hands toward each other until the fingers on the neck reach the bony notch at the top of the sternum (breastbone) and the fingers on the abdomen reach a bony structure (xiphoid process) indicating the lower end of the sternum. Bring thumbs together along midline of breastbone to determine middle of sternum.	the size of the patient within specified limits. An alternate procedure for locating the middle of the lower half of the sternum is done by locating the bony structure (xiphoid process) indicating the lower end of the sternum, placing the ring finger on the xiphoid process and then placing two adjacent fingers on the bottom of the sternum. The upper edge of these two fingers shows the approximate center of the lower half of the sternum. Note: Victim must be on hard surface in prone position. If necessary, move patient.
12. Place the heel of the palm of one hand over the middle of the lower half of the sternum on the midline of the sternum.	
13. Place the heel of the other hand on top of the first hand on the sternum.	Fingers of both hands must be raised so that only the heel of the one hand touches the sternum and no fingers rest on any part of the rib cage.
14. The rescuer's elbows are locked in a straight position with the shoulders directly over the patient's chest and the sternum is then depressed 1/3 of the patient's total body with 1-1/2 to 2 inches in an adult.	The larger muscles in the back should produce the operator's up and down motion. The ratio of time spent depressing and releasing the sternum should be 1:1. (If the patient receiving compressions is a four or five year old child weighing greater than 50 pounds, one hand should be used in depressing the sternum. In an infant, finger-tip pressure is sufficient to depress the sternum and circulate blood. Each patient to receive CPR must be evaluated separately to determine the proper style and amount of pressure exerted.)

BASIC LIFE SUPPORT AND PRIMARY SURVEY

TASK 2 (CONTINUED)

AIRWAY MAINTENANCE AND RESUSCITATION

ELEMENTS	EXPLANATION
15. With two operators, a compression occurs once a second (60 times per minute) with a ventilation exchanged once every five compressions.	With one operator, the ratio is 15 compressions to 2 ventilations; however, in order to compensate for the ventilation time, compressions must be given at a rate of 80 per minute.
16. Visually observe for any severe bleeding. (If severe bleeding exists, go to LOOP 8.)	Severe bleeding is defined as a loss of blood great enough to impair CPR efforts or produce an immediate life-threatening situation.
17. Continue treatment as necessary.	
18. Continue to monitor the patient's condition and progress during the entire resuscitation process by checking vital signs such as: A. Presence of any pulse B. Presence of voluntary respiration C. Degree of skin profusion D. Pupil construction reaction E. Skin color F. Skin temperature (If two rescuers are using a ratio of 5:1 and efforts do not appear to be effective, switch to 15:2 ratio.)	
19. If patient does not respond, continue efforts and prepare to transport. (See task "Transportation".)	
20. Go to Secondary Survey of a Non-Communicative Patient.	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

TASK 3

OXYGEN THERAPY

ELEMENTS	EXPLANATION
	Assumes that the patient is in a condition which indicates the administration of oxygen. Further assumes that the following equipment is available: A. nasal cannula B. oxygen mask C. bag-valve mask/reservoir tube D. demand valve unit E. oxygen tank F. oxygen pressure regulator with flow meter
1. If patient is conscious, explain what the oxygen is for and what the device is that is going to be used for administration.	Patients who are having difficulty breathing or are in a state of shock will be very apprehensive, especially if a mask is going to be placed over their face.
2. Select appropriate device to administer oxygen.	
3. Place curved plastic prongs into nostrils.	Prongs should curve downward following the natural curvature of the nostril.
4. Stabilize tubing in nostrils and loop tubing around ears.	Nasal cannulas vary in design. If the cannula has an elastic band on it, loop elastic band over patient's head.
5. Slide loop around the tubing up under the chin to secure cannula in place.	It is not necessary to slide this loop until the cannula is tight, but merely secure.
6. Attach tubing to oxygen regulator.	
7. Crack oxygen tank by turning the main valve in a clockwise direction.	
8. Adjust flow meter at approximately 6-10 liters per minute.	
9. Determine if all problems have been treated. (If all problems have not been treated, go to "Multi-Problem Triage.")	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

TASK 3 (CONTINUED)

OXYGEN THERAPY

ELEMENTS	EXPLANATION
10. Determine if patient is in a life-threatening condition. (If yes, go to "Transportation")	
11. Determine if all patients have been treated. (If no, go to "Multi-Pateint Triage")	
12. Prepare to transport.	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 1

Opening Airway of Victim with Suspected Cervical Injury

ELEMENTS	EXPLANATION
1. Kneeling at the side of the patient, displace mandible by placing thumb in victim's mouth gripping front of jaw with thumb and forefinger. (Go to Element #4)	This technique is used in place of hyperextension of neck to avoid aggravation to any cervical injury. Any movement of the cervical region should be avoided.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 2

Hyperextension of Infant's Neck

ELEMENTS	EXPLANATION
1. Gently hyperextend the infant's neck by placing one hand on the forehead and the other hand under the infant's neck. Unlike the adult patient, the infant's neck should not be hyperextended to such a degree that the chin is pointing straight up (i.e. a 90 degree angle) but it should be positioned to approximately a 50 degree angle.	The neck of the infant is so pliable that forceful backward tilting of the head may actually obstruct breathing passages; therefore, the tilted position should not be exaggerated.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 3

Clearing Airway of Obvious Obstruction

ELEMENTS	EXPLANATION
1. If all or part of obstruction may be removed by hand, the patient should be turned on his/her side and the hand swept through the patient's mouth to wipe out obstruction (e.g., large chunks of food, dentures).	
2. Determine if obstruction appears to be gone. (If obstruction is removed, go to Task Element #5).	
3. If obstruction may be removed by aspirator (suction device), select proper size suction tip based upon nature of obstruction material.	Assumes suction device is operated off engine manifold. There are two basic types of catheters which may be used for aspiration. The tonsil tip catheter is a rigid catheter and more useful for aspiration of more solid obstruction (i.e., food particles). The french catheter is flexible and is more useful in aspiration of fluids (i.e., water, blood). French catheters also come in varying sizes.
4. Connect suction tip to suction tubing and adjust control valve to 60-80 mm suction (for an adult). (If a portable unit is being used, then adjust control to allow maximum suction.)	It may be necessary to use a universal adapter for some types of french catheters.
5. Place suction tip in water bottle to check suction effectiveness and moisten suction tubing. (If suction is not effective, turn patient on side and drain.)	
6. Place suction tip in patient's mouth. The suction tip or catheter should not be inserted further than the distance from the tip of the nose to the base of the ear.	To facilitate proper insertion, it will be necessary to remove suction from the tip by either pinching flexible catheter with thumb and forefinger or removing forefinger from suction hole on the base of tonsil tip catheter. (This will prevent the tip from catching the soft tissue of the tongue or cheek during insertion.)

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 3 (CONTINUED)

Clearing Airway of Obvious Obstruction

ELEMENTS	EXPLANATION
7. Once inserted, move catheter back and forth in pharynx for approximately 10 seconds aspirating any material.	The rescuer will be able to hear fluid being aspirated as the catheter is being rotated.
8. After each 10 seconds, remove catheter and insert in water bottle to clean out catheter and tubing.	This step is necessary to insure that any fluids aspirated do not dry in the tube and block the tubing.
9. Determine if airway is clear by observing for fluid being suctioned (or lack of it). (If foreign matter is removed, go to Task Element #4). (If foreign matter is still present, go to Task Element #6, LOOP 3).	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 4

Treatment of Patient with Laryngectomy

ELEMENTS	EXPLANATION
1. Examine trachea for obstruction and clean the stoma of mucus and encrusted matter. (If aspiration is necessary, go to appropriate task).	
2. Place mouth over stoma and form an airtight seal over stoma and exhale into trachea. (If the patient is a partial-breather, it will be necessary to seal the patient's mouth with the palm of one hand and pinch off the nostrils with the thumb and forefinger of the same hand).	
3. Remove mouth from stoma to allow natural exhalation of air. (Go to Task Element #8).	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 5

Use of Bag-Valve Mask and Oropharyngeal Airway

ELEMENTS	EXPLANATION
1. Place index finger in mouth on lower set of teeth while placing thumb in mouth on upper set of teeth. With a scissor-like action of the thumb and crossed index finger, pry mouth open.	This is known as the cross-finger technique and is an excellent method to open the mouth.
2. Insert the oropharyngeal airway by holding the mouth end of the airway and placing the upside-down airway into the patient's mouth with the end pointing toward the roof of the patient's mouth. Then, after the airway has been inserted about half way, it should be twisted 180 degrees and inserted completely.	The airway is inserted upside-down to insure that the airway does not push the tongue back and obstruct the airway.
3. Kneeling at the head of the patient with the patient's head between the knees, place mask over patient's mouth and nose with pointed part of the mask fitting over the bridge of the nose. Form an airtight seal by placing the thumb on the rim of the mask nearest to the patient's nose and the index and middle fingers on the chin side of the mask forming a "C" clamp grip on the mask. The ring finger and little finger of the same hand are used to grip and lift upward on the mandible.	An alternate method requires the mask to be positioned in a similar manner, with the palm being placed directly over the mask and the four fingers of the same hand grip and lift upward on the mandible. The attempt to create an airtight seal must not result in a flexing action of the neck or the airway will be blocked. The fingers on the mandible should not slip into the soft tissue area of the neck. There is a possibility that pressure exerted to the soft tissue under the chin will block the airway. In the operation of the bag-valve mask device, the proper size mask must be selected before ventilation is attempted. The bag-valve unit is normally stored with an adult mask attached. If the patient is a small child or an infant, it will be necessary to switch the mask attachment to the proper size.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 5 (CONTINUED)

Use of Bag-Valve Mask and Oropharyngeal Airway

ELEMENTS	EXPLANATION
4. Resting the bag on a thigh, hold it with the palm down and fingers extended.	An alternate method of holding the bag is to grab the bag with the palm down and fingers and thumb of the same hand gripping the bag.
5. Press the bag against the thigh with the palm with smooth, firm motion, then relax to allow the bag to expand.	An alternate method requires squeezing the bag between the fingers and thumb, then relaxing the fingers to allow the bag to completely expand.
6. Ventilate the patient four times as quickly as possible. It is not necessary to remove the mask after each ventilation to allow the escape of air.	Complete squeezing of the bag should supply an adequate amount of air [illegible] ventilate an average adult. [illegible] tient size decreases (i.e., sm[illegible] child), less air will be requi[illegible] ventilate the patient. It will [illegible] necessary to compensate for this difference in size when ventilati[illegible] with the bag-valve mask.
7. Administer oxygen as soon as possible during the process of IPPV.	
8. Connect oxygen connector tubing from oxygen bubble through humidifier to small fitting at the back of the bag unit in the bag-valve device.	Assumes reservoir tube is available and has been connected to the large fitting at the back of the bag-valve mask device.
9. Crack oxygen tank by turning the main valve in a clockwise direction.	
10. The flow meter should be set at approximately 10 liters per minute. (Go to Task Element #9).	The rescuer may wish to flood the bag and reservoir tube with oxygen by increasing the liter flow to 15 liters per minute initially.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 6

Mouth-to-Nose Ventilation

ELEMENTS	EXPLANATION
1. Form airtight seal by placing mouth over victim's nose and sealing victim's mouth with palm of hand.	
2. Ventilate patient four times as quickly as possible removing mouth from patient's nose and palm from patient's mouth to allow the escape of air. (Go to Task Element #9).	Air should be exhaled into victim until chest rises.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 7

Techniques for Opening Airway

ELEMENTS	EXPLANATION
	If cervical injury is suspected, all techniques should be done with minimal movement to the cervical region to avoid aggravation to any existing trauma.
1. Kneeling at the side of the patient, displace the mandible by placing the thumb in the victim's mouth, gripping the front of the jaw with the thumb and forefinger, and gently pulling forward.	An alternate method for displacement of the mandible can be accomplished by placing the thumb on the corresponding cheek bones of the victim, grasping the angles of the lower jaw just beneath the ear lobes with the forefingers and gently lifting the jaw.
2. Determine if obstruction appears to be gone. (If obstruction is removed, go to Task Element #8.)	The only procedure to determine if obstruction is gone is to ventilate the patient by most appropriate method.
3. If all or part of the obstruction may be removed by hand, the patient should be turned on his/her side, with head tilted downward to allow for drainage, and the fingers swept through the patient's mouth to wipe out obstruction (e.g., large chunks of food, dentures, etc.).	If cervical spine injury is suspected, every effort should be made to rotate body and head simultaneously to avoid twisting or aggravation of cervical spine injury.
4. Determine if obstruction appears to be gone. (If obstruction is removed, go to Task Element #8.)	
	Assumes suction device is operated off engine manifold.
5. If obstruction may be removed by aspirator (suction device), select proper size suction tip based upon nature of obstructing material.	There are two basic types of catheters which may be used for aspiration. The tonsil tip catheter is a rigid catheter and more useful for aspiration of more solid obstruction (i.e. food particles). The french catheter is flexible and is more useful in aspiration of fluids

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 7 (CONTINUED)

Techniques for Opening Airway

ELEMENTS	EXPLANATION
	(i.e., water, blood). French catheters also come in varying sizes.
6. Connect suction tip to suction tubing and adjust control valve to 60-80 mm suction (for an adult). (If a portable unit is being used, then adjust control to allow maximum suction).	It may be necessary to use a universal adapter for french catheter.
7. Place suction tip in water bottle to check suction effectiveness and moisten suction tubing. (If suction is not effective, turn patient on side and drain.)	
8. Place suction tip in patient's mouth. The suction tip or catheter should not be inserted further than the distance from the tip of the nose to the base of the ear.	To facilitate proper insertion, it will be necessary to remove suction from the tip by either pinching flexible catheter with thumb and forefinger or removing forefinger from suction hole on the base of the tonsil tip catheter. (This will prevent the tip from catching the soft tissue of the tongue or cheek during insertion.)
9. Once inserted, move catheter back and forth in pharynx for approximately 10 seconds aspirating any material.	The rescuer will be able to hear fluid being aspirated as the catheter is being rotated.
After each 10 seconds, remove catheter and insert in water bottle to clean out catheter and tubing.	This step is necessary to insure that any fluids aspirated do not dry in the tube and block the tubing.
10. Determine if airway is clear by observing for fluid being suctioned (or lack of it). (If foreign matter is removed, go to Task Element #8.)	
11. Insert the oropharyngeal airway by holding the mouth end of the airway	The airway is inserted upside-down to insure that the airway does not push the tongue back and obstruct the airway.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 7 (CONTINUED)

Techniques for Opening Airway

ELEMENTS	EXPLANATION
and placing the upside-down airway into the patient's mouth. Then after the airway has been inserted about half way, it should be rotated 180 degrees and completely inserted.	
12. Determine if obstruction appears to be gone. (If obstruction is removed, go to Task Element #8.)	
13. If all other methods fail, roll patient over on side with head tilted downward to allow for drainage, and apply sharp blow between the shoulder blades with the palm of hand.	The procedure is designed to dislodge any foreign object which might be caught in the trachea. This technique should not be used if a cervical spine injury is suspected.
14. Determine if obstruction appears to be gone. (If obstruction is not removed, repeat all airway opening techniques (LOOP 6) and prepare to transport.) (If obstruction is removed, go to Task Element #8.)	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 8

Control of Severe Hemorrhage

ELEMENTS	EXPLANATION
	Assumes that the rescuer has examined the patient and has determined that there exists evidence of severe hemorrhage which must be controlled prior to attempting other resuscitative methods. Assumes that the following equipment is available: A. Scissors B. Gauze dressings C. Tourniquet
1. Determine specific location of wound. If necessary, cut clothing with scissors to expose area of wound.	While examining the patient for area of injury, the rescuer should never: A. Disturb any dressing already applied. B. Touch the wound area if it is not necessary. If any of the patient's clothing is sticking to the wounded area, the rescuer must cut around the wound in an effort not to disturb the material in the wound. If severe chest trauma is present, the rescuer must decide if CPR or other resuscitative efforts will be effective. This is particularly important when other victims are awaiting treatment.
2. Place gauze dressings over the wound and apply direct pressure over the wound with the palm and fingers of the hand to control hemorrhage. (If injured area is not an extremity, go to Element #10.)	Pressure applied should not be so great that any other injuries beneath the surface wound will be complicated (e.g, a fracture). If blood comes through the dressing, apply more gauze and maintain pressure. If dressings are not available, the bare hand can be used.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 8 (CONTINUED)

Control of Severe Hemorrhage

ELEMENTS	EXPLANATION
3. If injury is on the upper extremities, elevate extremity above level of heart to aid clotting process.	
4. Determine if bleeding is controlled. (If it is controlled, go to Task Element #17.)	
5. Locate the supply artery (i.e., the brachial or femoral artery) and apply digital pressure to the artery with the hand and fingers.	The brachial artery lies between the biceps and triceps muscles on the inside of the upper arm. The femoral artery lies midway between the ilio-pubic prominences in the groin. The finger tips may be used for digital pressure to the brachial artery. However, the pressure applied to the femoral artery may require greater pressure than can be exerted by the finger tips. The femoral artery may require pressure by the heal of the hand in order to slow the flow of blood. Pressure should be applied enough to induce clotting.
6. Determine if bleeding is controlled. (If it is controlled, go to Task Element #17.)	
7. Wrap a tourniquet around the extremity as close to the wound as possible, and place a pad under the tourniquet next to the supplying artery.	Assumes that a commercial tourniquet is used. The pad will make the tourniquet more effective since more pressure can be applied to the supplying artery in this way. There is one basic rule which must be remembered in the application of a tourniquet. When a tourniquet is applied, it is to sacrifice a limb to save the patient's life. A tourniquet is a last resort measure of hemorrhage control. Since the portion of the limb beyond the tourniquet will no longer be receiving blood and oxygen, that portion of the limb will die. If the tourniquet must be applied, it should be

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 8 (CONTINUED)

Control of Severe Hemorrhage

ELEMENTS	EXPLANATION
7. Continued	applied as close to the wound site as to leave the patient with as much of the extremity remaining as possible. If the wound is located midway between the knee and the ankle, the rescuer should attempt to apply the tourniquet somewhere below the knee to provide the patient with the use of the knee joint once the artificial limb is applied. The proximity of the tourniquet application to the wound is dependent upon the nature, location, and scope of the wound.
8. Pull the strap through the buckle or friction catch tight enough to stop the flow of blood.	If the tourniquet is too tight, it may cause further, unnecessary damage to the limb (perhaps making the point of amputation that much higher.) If a commercial tourniquet is not available, an alternate device may be constructed by using a rolled ace bandage as the pad, and a wide cravat or necktie as the strap. The pressure may be applied by making a windlass.
9. Attach a notation to the patient concerning the fact that a tourniquet has been applied and of the time that it was applied.	The notation may be a tag kept with the tourniquet or, if there is no tag available, the letters "TK" should be placed on the patient's forehead. If no writing implement is available that will write on the skin, blood may be used.
10. Determine if bleeding is controlled. If bleeding is *not* controlled, continue previously described hemorrhage control methods until severe bleeding is brought under control. (Go to Task Element #17.)	If severe bleeding persists, the rescuer must decide if further resuscitative efforts will be effective.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 9

Cardiac-Related Medical Problem

ELEMENTS	EXPLANATION
	Assumes the rescuer has evaluated the problem to be cardiac-related.
1. Keep patient still.	Regardless of the coronary problem encountered by the patient, the heart is not operating under normal conditions since some of the heart tissue has been damaged. Any movement by a patient who has recently experienced a coronary results in additional strain on a heart which is already injured. In an ischemic heart (a heart lacking sufficient oxygen), any movement by the patient will result in a decrease of the oxygen already moving to the heart. Since the heart is in such a critical state, it must receive the maximum amount of oxygen available. Activities such as the patient raising an arm may be sufficient to cause additional damage to the heart, resulting in cardiac arrest.
2. Determine if the patient is: A. Experiencing sub-sternal chest pain radiating down the left arm (or both arms) B. Shortness of breath C. Nauseated D. Cold and clammy E. Anxious F. Cyanotic G. Experiencing edema (fluid rerention in the tissues) in the extremities H. Experiencing acute pulmonary edema	Many of the symptoms may appear in both a myocardial infarction and in congestive heart failure. However, the outward appearance of these two heart problems is quite different. The myocardial infarction patient is often doubled over with the extreme angina pectoris, while the heart failure patient is exhausted and gasping for as much air as he or she can get.
3. Place the patient in a sitting position or very slightly reclining position if it is more comfortable for the patient.	A semi-reclining position is usually the best position to allow the patient to breathe comfortably.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

AIRWAY MAINTENANCE AND RESUSCITATION

LOOP 9 (CONTINUED)

Cardiac-Related Medical Problem

ELEMENTS	EXPLANATION
4. Administer oxygen. (See Task 3: "Oxygen Therapy".)	Angina pectoris is caused by a decreased blood supply to the heart muscle because of the narrowing of the coronary artery, resulting in decreased blood flow and oxygen to the heart.
5. *If* patient is suffering from angina pectoris, his/her own nitroglycerine may be used to alleviate his or her condition.	Patients who experience angina pectoris rather frequently may have nitroglycerine tablets which are placed under their tongue and allowed to dissolve. Nitroglycerine is theorized to be effective because it: 1. dialates the coronary artery, allowing a greater blood volume to reach the heart, or 2. dialates peripheral vessels, allowing pooling and reducing work load on the heart.
6. Monitor patient's condition and vital signs. (Module 3)	When a patient has experienced a myocardial infarction, he/she may go into cardiac arrest immediately after the attack or at any time during the period of initial care and transportation. As a result of this high probability of an arrest situation, the rescuer must be very careful to observe any increase in the seriousness of the patient's condition.

BASIC LIFE SUPPORT AND PRIMARY SURVEY

OXYGEN THERAPY

LOOP 10

Oxygen Mask

ELEMENTS	EXPLANATION
	Assumes that the oxygen mask has been selected for oxygen administration.
1. Place mask over patient's mouth and nose with pointed part of the mask fitting over the bridge of the nose.	
2. Slide elastic band behind patient's head to secure mask in place.	
3. Attach tubing to oxygen regulator.	
4. Crack oxygen tank by turning the main valve in a clockwise direction.	
5. Adjust flow meter to approximately 4-6 liters per minute.	
6. Continue as required. (Go to Task #3, Element 9).	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

OXYGEN THERAPY

LOOP 11

Bag-Valve Mask

ELEMENTS	EXPLANATION
	Assumes that the bag-valve mask has been selected to administer oxygen. Assumes reservoir tube is available and has been connected to the large fitting at the back of the bag unit in the bag-valve mask device. Further assumes that the patient is breathing on his/her own and only oxygen is required.
1. Place mask over patient's mouth and nose with pointed part of the mask fitting over the bridge of the nose.	Assumes that the patient is unconscious.
2. If bag is to be used to assist the breathing, form an airtight seal by placing the thumb on the rim of the mask closest to the patient's nose and the index and middle fingers on the chin side of mask forming a "C" clamp grip on the mask. The ring finger and the little finger of the same hand are used to grip and lift upward on the mandible.	If patient is unconscious, simply hold mask close to face.
3. Connect oxygen connector tubing from oxygen regulator to small fitting at the back of the bag unit.	
4. Crack oxygen tank by turning the main valve in a clockwise direction.	
5. Set flow meter at approximately 10 liters per minute.	
6. As patient begins to inhale, squeeze bag with thumb and fingers to administer oxygen.	
7. Continue procedure as required. (Go to Task Element #9.)	

BASIC LIFE SUPPORT AND PRIMARY SURVEY

OXYGEN THERAPY

LOOP 12

Demand Valve

ELEMENTS	EXPLANATION
	Assumes that the demand valve unit has been selected to administer oxygen.
1. Place mask over patient's mouth and nose with pointed part of the mask fitting over the bridge of the nose.	
2. Form an airtight seal by placing the thumb on the rim of the mask closest to the patient's nose and the index and middle fingers on the chin side of the mask forming a "C" clamp grip on the mask. The ring finger and the little finger of the same hand are used to grip and lift upward on the mandible.	If patient is conscious, have the patient hold mask in position. In many cases, it will be beneficial to have the patient assist.
3. Crack oxygen tank by turning the main valve in a clockwise direction.	
4. As patient inhales, oxygen will be released by demand valve if airtight seal is maintained.	
5. If the demand unit is to be used to assist the patient in breathing as patient begins to inhale, depress button on demand valve until the chest rises then release button.	Assumes that patient is unconscious.
6. Continue process as required. (Go to Task 3, Element 9).	

MODULE III

SECONDARY SURVEY AND SHOCK

SECONDARY SURVEY AND SHOCK

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the students will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80 percent of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a series of steps, the student will be able to correctly recognize those steps which are part of an initial secondary survey for:

   A. Conscious victim
   B. Unconscious victim

2. Given a list of signs and symptoms which are obtained from a secondary survey, the student will be able to recognize and recall those medical problems which the signs and symptoms indicate.

3. Given a list of signs which could be obtained from a secondary survey, the student will be able to recognize and recall those trauma-related incidents which are indicated.

4. Given a list of activities, the student will be able to identify those considered to be activities to determine diagnostic and vital signs.

5. Given a series of diagnostic signs, the student will be able to recognize and respond to those signs which are sufficient to indicate the existence of a medical problem in a patient; and will be able to identify from a list the possible problem which the signs may indicate.

6. Given a description of the following:

   A. Arteries
   B. Arterioles
   C. Capillaries
   D. Venules
   E. Veins

   the student will be able to recognize the label associated with each description from a list of labels.

7. Given a description of the following and a list of labels:

   A. Diastolic pressure
   B. Systolic pressure
   C. Pulse rate
   D. Skin profusion
   E. Horizontal nystagmus
   F. Dilated pupils

   the student will be able to recognize the label associated with each description.

8. Given a list of signs and symptoms, the student will be able to identify those which are indicators of shock.

9. Given a description of the following and a list of labels:

   A. Carotid artery
   B. Femoral artery
   C. Radial artery
   D. Pulmonary arteries
   E. Pulmonary veins

   the student will be able to recognize the label associated with each description.

10. Given a list of situations, the student will be able to identify those in which oxygen should be administered.

11. Given a description of the following and a list of labels:

   A. Nasal cannula
   B. Oxygen mask
   C. Bag-valve mask
   D. Reservoir tube
   E. Demand unit
   F. Oxygen tank
   G. Flow meter

   the student will be able to recognize the label associated with each description.

12. Given a description of each of the following:

   A. Hemorrhage shock
   B. Septic shock
   C. Psychogenic shock
   D. Anaphylactic shock
   E. Cardiogenic shock
   F. Neurogenic shock
   G. Metabolic shock

   the student will be able to recognize the label associated with each description from a list of labels.

13. Given a list of signs and symptoms, the student will be able to identify those which indicate possible anaphylatic shock.

14. Given a list of treatments, the student will be able to recognize and respond to those treatments which are appropriate for shock.

15. The student will be able to define the physiological principle of shock.

16. The student will be able to list the three physiological causes of shock.

SECONDARY SURVEY AND SHOCK

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given a student posing as an unconscious victim, the student will be able to perform the steps necessary for a secondary survey.

2. Given a student posing as a conscious victim, the student will be able to question the victim and perform the steps necessary for a secondary survey of a communicative patient.

3. Given a student posing as an unconscious or conscious victim, the student will be able to take the following diagnostic and vital signs:

   A. Blood pressure

      (1) Palpable
      (2) Auscultation

   B. Pulses

      (1) Carotid
      (2) Radial
      (3) Brachial
      (4) Apical
      (5) Femoral

   C. Temperature

   D. Respirations

4. Given a student posing as a victim in shock, the student will be able to, upon questioning by the instructor, recall the signs which indicate the state of shock and demonstrate the steps necessary to treat the patient's shock. The instructor will verify the results by observing the student's actions. Successful performance will include oxygen therapy using:

   A. Nasal cannula
   B. Oxygen mask
   C. Oxygen mask with re-breather bag

5. Given a student posing as a patient in whom an I.V. has been inserted and the securing tape and dressing have been displaced, the student will replace a fresh antiseptic dressing, adhering to sterile technique; successful performance will include:

- A. Sterile gloves and sterile dressing
- B. Maintaining the I.V. needle in the proper position
- C. Taping the canula securely in place
- D. Looping the tubing and securing the loop to the patient's arm with tape

6. Given a student posing as a patient in whom an I.V. has been inserted and initially regulated, the student will maintain the rate at the prescribed number of drops per minute. Successful performance includes observing the drip chamber of the I.V. tubing and counting the number of drops per minute.

7. Given a student posing as a patient in whom an I.V. has been inserted and regulated but the prescribed rate has changed, the student will adjust the flow adjustment valve in whatever manner necessary to maintain the prescribed rate.

8. Given a student posing as a patient in whom an I.V. has been inserted and regulated but the I.V. fluid is not running properly, the student will troubleshoot the I.V. Successful performance includes:

- A. Assuring the tourniquet has been removed
- B. Assuring the patient's arm is not bent in such a fashion that circulation is impeded
- C. Inspecting the I.V. site for swelling, lowering the fluid container to check for infiltration, and stopping the I.V. by turning off the flow adjustment valve if blood does not appear in the taking
- D. Checking to see if tape has compressed any of the tubing
- E. Checking to see if the flow adjustment has been accidently turned off
- F. Raising the fluid container to increase the pressure
- G. Stopping the I.V. by turning off the flow adjustment valve if the above efforts do not result in a properly running fluid

9. Given a student posing as a patient who is receiving a blood transfusion and who begins experiencing an allergic reaction to the blood, the student will recognize the signs and immediately stop the blood flow by turning off the flow adjustment valve.

10. Given an empty I.V. set up, change I.V. fluid container, using proper technique.

SECONDARY SURVEY AND SHOCK

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will:

1. Distribute the student activity sheet and handouts during the class period prior to beginning this module. Assignments are:

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 123-144, 219-224, page 24, 408-409. Review page 208, Bodily Effects of Blood Loss.

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 85-100.

2. This module is planned for 6 hours. The lecture will involve the use of slides and filmstrips. The content of the lecture is specified in the Module Outline.

   A. Slides are from the EMERGENCY CARE SERIES, Robert J. Brady Company. Units 1 and 4.

   B. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training Inc.

      (1) Taking and Using Diagnostic Signs, Unit 2.
      (2) Basic Bandaging Skills, Unit 8.

   C. References:

      (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons, 1975). 2nd Edition. Pages: 39-116, 231-239.
      (2) Basic Life Support Skills Manual, by Charles Phillips, M.D., Robert J. Brady Co. (1977) Pages 63-69.
      (3) Advanced First Aid and Emergency Care, The American National Red Cross (1973). Pages: 59-63.
      (4) When Your Out of Circulation...by James Heckman, M.D.; Emergency Product News; August 1977, Pages: 14-16.
      (5) Shock, A General Discussion, by Richard K. White, M.D.; Emergency Product News; August 1977, Pages: 14-16.
      (6) Traumatic Shock, by Norman E. McSwain, M.D., Emergency Product News; August 1977, Pages: 19-21.
      (7) Cardiogenic Shock, Interference With Man's Life Sustaining Pump, by Carl T. Nolte, M.D. and Paul Rosenstock, M.D.; Emergency Product News; August 1977, Pages: 22-25.
      (8) Shock Management, Case Studies, by Mary Beth Skelton, R.N., Emergency Product News; August 1977, Pages: 58-60.
      (9) Shock in the Pediatric Patient, by John G. Raffensperger, M.D., Emergency Product News; August 1977, Pages: 46-49

D. Alternative Learning Resources:

  (1) Filmstrips: EMERGENCY CARE SERIES, by Trainex.

    a. Shock and Hemorrhage, Program No. 348.
    b. Blood Pressures, Program No. 367.

  (2) Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.

    a. Wounds, Control of Bleeding and Shock, Unit 7.

E. Handouts:

No. 4 Vital Signs Information Sheet.

F. Review Instructional Materials and Equipment.

3. Prepare notes and conduct the demonstration session. The demonstrations consist of:

A. Procedures for conduct of a secondary survey of a conscious victim.
B. Procedures for conduct of a secondary survey of an unconscious victim.
C. Procedures for taking diagnostic signs.
D. Procedures for treatment of victim in shock.
E. Procedures for administration of oxygen using:

  (1) Oxygen mask - with re-breather bag
  (2) Demand unit
  (3) Oxygen mask
  (4) Nasal cannula

F. Demonstrate maintenance and trouble shooting of intravenous therapy.

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

5. After the practice session and lecture, the instructor will evaluate the student's ability to perform each of the skills. The student's skills can be evaluated separately or collectively. In addition, each student will be required to take a written examination. After completing the evaluation, the instructor will advise the student on his/her progress and suggest alternative learning resources, if appropriate.

SECONDARY SURVEY AND SHOCK

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and chalkboard
Slide Projector
Filmstrip/Cassette Machine
Screen
Circulatory Chart

Medical

Adult manikin
Sphygmomanometer (10)
Stethoscope (10
Penlight (10)
Nasal Cannulas (10)
Oxygen Masks (10)
Oxygen Masks with re-breather bag (2)
Oxygen tank - "E" cylinder (2)
Reduction valves
Jump Kit - equipped
Blankets (10)

Simulation Casualty Kit

Optional

Sterile gloves
I.V. arm or infusion trainer with I.V. pole
Angiocaths - any gauge
Scalp infusion needle - -any gauge
Needles - 20 G- for piggy back I.V.
Intravenous solution - 1000 ml., 500 ml.
Tourniquet
Armboard
Tape ½" - 1"
Buretrol - 60 gtts. - 1 ml.
Regular I.V. tubing
Blood transfusion tubing/pump
70% alcohol and/or betadine skin prep

Handouts

Task sheets
Skill and Knowledge Objectives
Skill Evaluation Sheets
Written Examination
Skill development checklist
No. 4 Vital signs

Audiovisuals

Slides: Emergency Care Series (Units 1 and 4)
Filmstrips: Basic Skills for EMT'S
(Units 2 and 8)

SECONDARY SURVEY AND SHOCK

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material assigned prior to Module Lecture.

2. Reading Assignment:

   A. Read Knowledge and Skill Objectives at the Beginning of this Assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 24, 123-144, 219-224, 408-409. Review page 208. Bodily Effects of Blood Loss.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company. 2nd Edition. Pages 90-91.

3. Handouts:

   No. 4 Vital Signs Information Sheet
   For student use during the anatomy portion of the Module Lecture.

4. Student Skill Development Checklist for Secondary Survey and Shock. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

5. When instructor has completed Module Lectures, demonstrations and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

6. Alternative Learning Resources

   A. Filmstrips: EMERGENCY CARE SERIES, by Trainex:

      (1) Shock and Hemorrhage, Program No. 348
      (2) Blood Pressures, Program No. 367

   B. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.

      (1) Wounds, Control of Bleeding and Shock, Unit 7.

7. Skill Development checklist begins on next page.

SECONDARY SURVEY AND SHOCK

7. Before leaving this module the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTOR'S INITIAL
A. Secondary survey of non-communicative victim			
B. Secondary survey of communicative victim			
C. Blood pressures: Plus/minus 4			
#1 _____			
#2 _____			
#3 _____			
D. Respirations: Plus/minus 2 - 15 sec.			
1 _____			
2 _____			
3 _____			
E. Radial pulse: Plus/minus 2 - 60 sec.			
F. Pupil reaction/penlight			
G. Verbally: indicate causes of 1. hemorrhagic shock			
2. respiratory			
3. neurogenic			
4. cardiogenic			
5. psycogenic			
6. septic			
7. metabolic			
8. anaphylatic			
H. Review: Type "E" oxygen tank			
Bag/valve			
Demand valve			
Oxygen mask			

SECONDARY SURVEY AND SHOCK

HANDOUT # 4

VITAL SIGNS INFORMATION SHEET

I. Terms and definitions

A. Pyrexia--Elevation of body temperature above normal
B. Febrile--Feverish: pertaining to a fever
C. Hypothermia--Below normal body temperature
D. Pulse--Beat of the heart as felt through the walls of the arteries
E. Rate--Number of pulse, heartbeats, or respirations per minute
F. Rhythm--Regularity or irregularity of the pulse, heartbeat or respirations.
G. Quality--Volume: strength of pulse beats
H. Arrhythmia--Uneven intervals between pulse or heartbeats
I. Apical pulse--Heart rate counted at the apex of the heart by using a stethoscope
J. Pulse deficit--Difference between pulse counts taken simultaneously at two sites, usually radial and apical pulse
K. Tachycardia--Heart rate consistently above normal
L. Bradycardia--Abnormally slow heart rate
M. Respiration--Breathing: the inspiration and expiration of air involving the muscles of the chest and abdomen
N. Blood pressure--Force the blood exerts against a vessel wall as the heart beats
O. Body Temperature--Balance between heat produced and heat lost by the body
P. Sphygmomanometer--Instrument used to measure blood pressure
Q. Stethoscope--Instrument used to listen to the sounds produced by the heart, lungs, and other internal organs
R. Hypertension--High blood pressure
S. Hypotension--Low blood pressure

II. Importance of vital signs

A. Vital signs or cardinal symptoms include temperature, pulse, respirations and other blood pressure
B. Change in one of the vital signs may affect the others
C. Deviation from normal rates usually indicates presence of a disease or infections
D. Variations of certain vital signs are so typical of some diseases or stages of diseases that diagnosis and medical care plan can be dependent upon these symptoms
E. Accurate measurement of the vital signs is an important aid in the evaluation of a patient's condition

III. Regulation of body temperature

A. Heat is produced by the oxidation of digested food and by muscle and gland activity; some heat may be obtained from the environment
B. Heat is lost through respirations, excreta, and warming cold beverages and foods which are consumed; the greatest amount of heat loss is through the skin

- C. When heat production and heat loss are in balance, the temperature is normal, between 97.6 degrees to 99 degrees F or 36 degrees to 38 degrees C
- D. The body functions most efficiently at normal temperature
- E. Body temperature is regulated by the hypothalamus and the autonomic nervous system

IV. Sites and indications for taking temperature in each site
- A. Oral Cavity
  - 1. Simplest
  - ?. Most convenient
  - 3. Most comfortable
- B. Rectum
  - 1. Most accurate
  - 2. Safest
  - 3. Usually used for children under six years of age
- C. Axilla
  - 1. Used only when temperature cannot be taken orally or rectally

V. Contraindications for taking temperatures in each site
- A. Oral Cavity
  - 1. Difficulty in breathing
  - 2. Oral or nasal surgery, infection or disease
  - 3. Injury to oral or nasal cavity
  - 4. Unconsciousness, confusion, mental illness, or senility
  - 5. Extreme weakness
- B. Rectum
  - 1. Rectal or perineal surgery, disease, infection, or inflammation
  - 2. Rectal distention with fecal material
  - 3. Diarrhea

- C. Axilla
  - 1. Least accurate

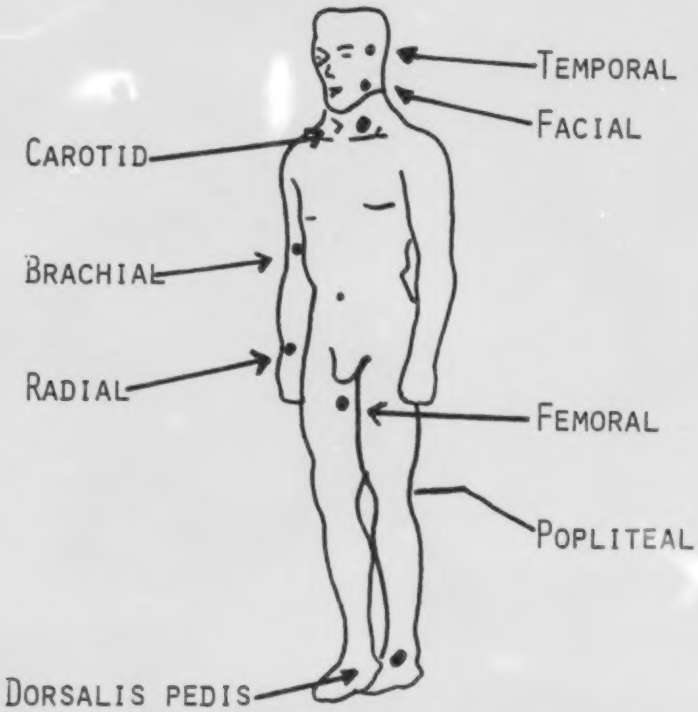
VI. Body temperature range
- A. Normal oral--97.6 to 99 degrees F; 36.4 to 37.2 degrees C
- B. Normal rectal--99.6 degrees F; 37.5 degrees C
- C. Normal axillary--97.6 degrees F; 36.4 degrees C

VII. Factors which influence body temperature
- A. External environment: room temperature, ventilation, amount of clothing, and humidity
- B. Internal environment: Body temperature is affected by such things as amount of adipose tissue, illness and fluid and electrolyte balance
- C. Sex: Women usually have a higher temperature than men
- D. Age: Heat-regulating mechanism is not fully developed in infants and younger children: in-aged, heat-regulating mechanism becomes less efficient
- E. Strong emotions--excitement, anxiety, nervousness, and other emotions cause increased activity of the secreting glands which increases heat production

- F. Time of day--Body temperature is usually highest in mid-afternoon and lowest during the night
- G. Exercise and digestive processes--Increased activity elevates body temperature
- H. Infection or disease--Infection and disease processes may increase or decrease body temperature
- I. Hot or cold foods--Hot or cold foods taken within fifteen to thirty minutes prior to taking an oral temperature will cause an inaccurate reading
- J. Mouth breathing--The dry, cooled mouth of a mouth-breathing person will not register an accurate temperature
- K. Smoking--Smoking prior to an oral temperature taking will give an inaccurate reading.

VIII. Sites for taking the pulse
- A. Temporal --Just above the anterior portion of the ear
- B. Facial -- Near the notch in the mandible
- C. Carotid--On the side of the neck (anterior)
- D. Brachial--Inner arm above the elbow
- E. Radial--Inner surface of wrist on thumb side
- F. Femoral--Inner thigh just below the groin
- G. Popliteal--Posterior leg, just behind the knee
- H. Dorsalis pedis--On top of foot lateral to tendon of the large toe

PULSE POINTS



IX. Range of average pulse rates
  A. Men 60 to 70
  B. Women 65 to 80
  C. Children over seven--80 to 120
  D. Children one to seven--80 to 120
  F. Infants--110 to 130

X. Factors which influence heart rate and pulse rate
  A. Activity
  B. Emotions
  C. Some drugs--(Caffeine increases and digitalis decreases heart rate.)
  D. Endocrine disturbances--(Hyperthyroidism and hypothyroidism influence heart rate.)
  F. Disorders of the heart and circulatory system

XI. Factors affecting respiration
  A. Age--(Rate for newborn may be 40 times per minute while the normal adult rate is 12 to 20 times per minute.)
  B. Sex--(Rate usually faster in women.)
  C. Exercise
  D. Pain
  E. Fever
  F. Emotions
  G. Heart disease
  H. Respiratory disease
  I. Drugs

XII. Terms used to describe respiration
  A. Eupnea--Normal
  B. Dyspnea--Difficult or labored
  C. Apnea--Temporary cessation
  D. Orthopnea--Condition in which breathing is possible only when the person sits or stands in an erect position
  E. Hyperpnea--Increased rate and depth of breathing
  F. Tachypnea--Rapid, shallow breathing
  G. Stertor--Accompanied by abnormal snoring sounds
  H. Cheyne-Stokes--Uneven respirations from strong to weak with intervals of apnea
  I. Rales--Bubbling or rattling sounds caused by mucus in the air passages as in bronchitis or pneumonia
  J. Costal--Accomplished chiefly by the rib muscles
  K. Stridor--Shrill, harsh sound especially during inspiration in laryngeal obstruction

XIII. Factors affecting blood pressure
  A. Condition of the walls of the arteries and arterioles
  B. Rate of heart beat
  C. Exercise
  D. Emotions
  E. Sex
  F. Hemorrhage
  G. Shock
  H. Drugs
  I. Endocrine activity
  J. Altitude
  K. Smoking
  L. Site where taken

XIV. Measuring blood pressure
   A. Systolic pressure--Pressure at its peak during the contraction or systole of the heart
   B. Diastolic pressure--Pressure at its lowest when the heart is relaxed, the diastole
   C. Pulse pressure--Difference between systolic and diastolic (NOTE: Normal values for the young adult are: systolic, 120 mm Hg; diastolic, 80 mm Hg. (120/80), approximately 40 mm Hg. Pulse pressure.)

XV. Sites for taking blood pressure
   A. Over the brachial artery on the inner surface of the elbow
   B. In the popliteal space with the cuff applied above the knee
   C. In the lower leg over the tibial artery with the cuff applied below the knee. (NOTE. When blood pressure is not taken in the arm, the site should be recorded on the run sheet.)

SECONDARY SURVEY AND SHOCK

LECTURE TOPICS	REFERENCES
I. Secondary survey of a non-communicative patient.	Task 1
A. Procedure	
1. Mechanism of injury	Elements 1-5
2. Bystander information	
3. Scalp	LOOP 1
4. Skull	
5. Ears and nose	
6. Neck	
7. Chest	
8. Abdomen	
9. Pelvis	
10. Extremities	
a. fractures	
b. paralysis	
11. Spine	
12. Buttocks	
B. Variations	
1. Any gross problems noticed during the visual survey or the primary survey are dealt with.	
2. Two EMTs split the survey.	
3. The secondary survey is always completed before transport.	
DEMONSTRATION #1	
II. Secondary survey of a communicative patient	Task 2
A. Technique	
1. Talk with the patient to gather	Element 1

SECONDARY SURVEY AND SHOCK

LECTURE TOPICS	REFERENCES
a. areas of pain	
b. name	
2. Determine type of problem	Element 1
a. medical	
(1) history	
(2) medication	
(3) doctor's name	
b. trauma	Element 4
(1) story of incident	
(2) time of incident	
(3) loss of feeling	
3. Monitor radial pulse	Element 2
4. Determine level of shock	
5. Feel any areas where there is:	
a. pain	
b. loss of feeling	
6. Determine level of consciousness (horizontal nystagmus)	
B. Variations	
1. Any gross problems noticed	
2. Patient may not be aware of injuries due to shock or paralysis	
DEMONSTRATION #2	
"An important aide to secondary survey is the determination and evaluation of the patient's diagnostic and vital signs."	
III. Diagnostic and Vital Signs (Procedure & Evaluation)	Task 3 Handout #4

SECONDARY SURVEY AND SHOCK

LECTURE TOPICS	REFERENCES
A. Blood pressure	
B. Pulse	
C. Respiration	
D. Skin temperature, color, and moisture	
E. Pupil reaction	
F. State of consciousness	
G. Paralysis	
H. Reaction to pain	
DEMONSTRATION #3	
IV. Circulatory System	
A. Anatomy and physiology	Review only Handout #3
1. Blood	
2. Systemic circulation	
a. arteries	
b. arterioles	
c. capillaries	
d. venules	
e. veins	
3. Pulmonary circulation	
a. pulmonary artery	
b. pulmonary veins	
c. lungs	
B. Role - Transport vital elements	
C. Pulse	Review only
1. Origin	
2. Rates	
D. Major arteries; femoral, carotid, radial	
V. Shock	Task 4

SECONDARY SURVEY AND SHOCK

LECTURE TOPICS	REFERENCES
A. Definition	
B. Effect on body	
C. Types and causes	
D. Signs and symptoms	
E. Emergency care	
1. Position patient	
2. Administer oxygen	Review only LOOP 4, 5, 6, 7
a. oxygen set	
b. nasal cannula and mask	
DEMONSTRATION #4	
3. I.V. infusion (for demonstration only)	LOOP 3
DEMONSTRATION #5	
F. Anaphylactic shock	LOOP 2
1. Definition	
2. Signs and symptoms	
3. Treatment	

SECONDARY SURVEY AND SHOCK

DEMONSTRATION #1: SECONDARY SURVEY OF NON-COMMUNICATIVE PATIENT

Using a student volunteer or adult manikin, demonstrate the following skills:

1. Review steps of primary survey.
2. Take patient's radial pulse. Show:
    - A. Where to locate pulse
    - B. How to place fingers
    - C. Reason pulse is monitored.
3. Gather information from patient's family, bystanders, etc., to determine:
    - A. Apparent cause of problem (trauma or medical)
    - B. Medical history (if applicable)
    - C. Description of what happened (if applicable).
4. If trauma-related problem indicated, evaluate patient by:
    - A. Visually observing patient's condition; tell what signs to look for
    - B. Visually observing mechanism of injury
    - C. Check patient; demonstrate survey technique for each area of the body.
5. If medical-related problem indicated, evaluate patient by:
    - A. Gathering further medical history
    - B. Visually observing patient; tell what signs to look for
    - C. Evaluate vital and diagnostic signs.
6. Evaluate results of survey and determine next steps to be taken.

DEMONSTRATION #2: SECONDARY SURVEY OF COMMUNICATIVE VICTIM

Using a student volunteer from the class, demonstrate the following skills: (Tell the student to select some type of trauma-related injury and simulate the signs and symptoms of the injury during the survey.)

1. Gather information from victim or bystanders concerning the victim's condition:
    - A. Painful areas
    - B. Apparent cause of problem (trauma or medical)
    - C. Medical history (if applicable)
    - D. Description of what happened (if applicable).
2. Take victim's radial pulse. Show:
    - A. Where to locate pulse
    - B. How to place fingers

3. Observe visually for signs and symptoms. Indicate:

   A. Where to observe
   B. What signs to look for
   C. What is the difference in survey technique between medical versus trauma-related problems.

4. Check pupils for:

   A. Horizontal nystagmus
   B. Dilation
   C. Light reaction

5. Feel patient for pain and numbness. Indicate:

   A. Where to feel
   B. Hand pressure to be exerted during survey

6. Evaluate results of survey and determine next steps to be taken.

DEMONSTRATION #3: EVALUATING DIAGNOSTIC AND VITAL SIGNS

Using a student volunteer from the class, demonstrate the following signs:

1. Review steps of primary survey.

2. Review steps of secondary survey.

3. Take victim's blood pressure using a sphygmomanometer. Indicate the following:

   A. Parts of a sphygmomanometer (cuff) and names
   B. Where to place cuff
   C. Alternate positions for blood pressure
   D. Parts and names of a stethoscope
   E. Where to place stethoscope and how to hold
   F. How to inflate cuff
   G. How to obtain systolic and diastolic pressure readings.

4. Evaluate reading obtained. Indicate major signs and decision points concerning:

   A. Variance of blood pressure with respect to age and sex
   B. Critical pressure levels (both high and low)
   C. Systolic and diastolic critical readings
   D. What is indicated by blood pressure reading.

5. Monitor victim's pulse. Show how to obtain:

   A. Radial pulse
   B. Carotid pulse
   C. Femoral pulse
   D. Evaluate strength, rhythm, and rate of pulse.

6. Evaluate result of pulse monitoring. Indicate possible meaning of the pulse being:

   A. Absent
   B. Rapid and strong
   C. Rapid and weak.

7. Monitor victim's respirations. Show how to:

   A. Listen for respirations
   B. Feel for respirations
   C. Differentiate between shallow and deep respirations.

8. Evaluate the respiration. Indicate possible meaning when respirations are:

   A. Absent
   B. Deep, gasping, labored
   C. Bright red, frothy blood with respiration.

9. Determine skin temperature and moisture. Show where to best obtain skin temperature and moisture.

10. Evaluate skin temperature and moisture. Indicate possible meaning when skin is:

    A. Hot, dry
    B. Cool, clammy
    C. Cool, moist
    D. Cool, dry.

11. Determine victim's skin color. Indicate where the best locations to determine color are.

12. Evaluate skin color. Indicate possible meaning of:

    A. Red skin
    B. White skin
    B. Blue skin

13. Determine pupil reaction using penlight. Show how to:

    A. Open eyelid
    B. Determine dilation
    C. Determine reaction to light.

14. Evaluate pupil reaction. Indicate the possible meaning of:

    A. Dilated pupils
    B. Constricted pupils
    C. Unequal pupils.

15. Determine victim's state of consciousness. Illustrate how to test for horizontal nystagmus.

16. Evaluate state of consciousness. Indicate possible meaning of:

    A. Brief unconsciousness
    B. Confusion
    C. Stupor
    D. Deep coma.

17. Determine if paralysis is present. Demonstrate:

    A. Conscious victim
    B. Unconscious victim.

18. Evaluate signs of paralysis. Indicate possible meaning of paralysis with respect to site of injury of:

    A. Lower extremities
    B. Upper extremities
    C. Limited paralysis to one side.

DEMONSTRATION #4: TREATMENT OF VICTIM IN SHOCK

Using a student volunteer or adult manikin, demonstrate the following skills:

1. Review the steps in a primary survey.

2. Review the steps in a secondary survey.

3. Point out the indicators obtained in the above surveys which indicate the victim is in shock.

4. Determine the type of shock victim is suffering. Point out the indicators and causes of:

    A. Hemorrhagic shock
    B. Respiratory shock
    C. Neurogenic shock
    D. Psychogenic shock
    E. Cardiogenic shock
    F. Septic shock
    G. Metabolic shock
    H. Anaphylactic shock.

5. Present treatment of shock including:

    A. Place victim in supine position. Indicate that victim's movement should be minimized.
    B. Maintain victim's body temperature. Use blanket over victim (if on ground, also place under patient).
    C. Administer oxygen. Point out:

        (1) How to assemble oxygen administration set
        (2) Where to hold
        (3) How to regulate

(4) When to Use
(5) How to disassemble the following:

  (a) Bag valve mask
  (b) Demand unit
  (c) Oxygen mask
  (d) Nasal cannula

DEMONSTRATION #5: ADMINISTRATION OF I.V.

Using an INFUSION TRAINER, the instructor will demonstrate the following skills:

1. Demonstrate sterile technique in the maintenance of an I.V. according to the following:

   A. Demonstrate the use of sterile gloves.
   B. Demonstrate the opening of sterile dressings: 4 x 4's; 3 x 3's; 2 x 2's.
   C. Demonstrate how to attach intracath to tubing and adjust flow rate
   D. Use of tape in securing and stabilizing intravenous tubing.
   E. Securing I.V. tubing and arm to armboard.
   F. Changing I.V. containers.
   G. Demonstrate how to monitor I.V. flow.

SECONDARY SURVEY AND SHOCK

PRACTICE SESSION FOR STUDENTS

After the lecture and demonstrations, students should be given the opportunity to practice their skills. The practice session can be conducted in one of several ways:

1. Students can be given the skill evaluation sheets as a job aid or to guide their practice, or they can use their notes taken during the lecture and demonstration. Students should be informed as to what materials and job aids they will be permitted to use.
2. If assistant instructors are available, they can be assigned to groups of students to ensure that the students understand the skill and procedures. If assistant instructors are used, the instructor should train and evaluate the assistant instructors on their ability to perform the required skills prior to the practical exercise.
3. Depending upon the number of students and available equipment, the students should be separated into small groups. Each group can be assigned a skill to practice covering all skill objectives, or all groups can practice that same skill at the same time.
4. Students in the group should be asked to help other students if assistant instructors are not available. Often times, students can communicate with other students in a more efficient manner than the instructor.

During the practice session, the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills. However, practice time should not exceed three hours.
2. Should assist any and all students during their practice to:
   - A. Correct any incorrect procedures, point out errors
   - B. Provide "hints" on ways to recall the correct procedures; e.g., A, B, C's of Basic Life Support or error avoidance behavior.
3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedure with them - repeating the demonstrations.
4. Should be careful not to occupy too much of the students' time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

The students have the following responsibilities:

1. To practice skills until they feel comfortable with the procedures.
2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

SECONDARY SURVEY AND SHOCK

PRACTICE SESSION #1: SECONDARY SURVEY

Divide the class into groups of three

Equipment

1. Blanket
2. Adult manikin
3. Bag valve mask
4. Demand valve unit
5. Oropharyngeal
6. Aspirator
7. Flexible thumb control suction catheters
8. Alcohol swabs
9. Oxygen tank ("E" cylinder)
10. Reduction valve
11. Oxygen supply tubing

Skills

1. Secondary survey of a non-communicative patient
2. Secondary survey of the communicative patient (see note)
3. Review one-and two-man CPR with and without equipment

NOTE: Each victim should select a problem or illness and the signs and symptoms which are involved. The student will simulate an illness or injury and provide direct information only if asked by the student rescuer.

PRACTICE SESSION #2: VITAL SIGNS

Divide the class into groups of three

Equipment

1. Sphygmomanometer
2. Stethoscope
3. Watch with second hand
4. Penlight

Skills

1. Review steps of secondary survey of non-communicative patient
2. Review steps of secondary survey of communicative patient
3. Take diagnostic and vital signs.

SECONDARY SURVEY AND SHOCK

PRACTICE SESSION #3: TREATMENT OF SHOCK

Divide class into groups of three.

Equipment

1. Adult manikin
2. Sphygmomanometer
3. Stethoscope
4. Penlight
5. Nasal cannulas
6. Oxygen masks
7. Oxygen masks with re-breather bag
8. Oxygen tank - "E" cylinder
9. Reduction valves
10. Jump kit - equipped
11. Blankets

Skills

1. Survey of the communicative and non-communicative patient
2. Evaluation of vital and diagnostic signs
3. Treatment of shock including oxygen therapy
4. One-and two-man CPR with and without equipment

PRACTICE SESSION #4: MONITORING I.V.'S

Divide class into groups of three.

Equipment

1. Infusion trainer or
2. I.V. arm
3. Intravenous solution
4. Tape: 1/2" - 1"
5. I.V. tubing
6. Sterile 2 x 2
7. Betadine swabs
8. Sterile gloves

Skills

1. Immobilizing a disconnected I.V. site only (without insertion of new needle) and readjustment of flow rate.
2. Monitoring I.V. flow adjustment valve.
3. Trouble shooting a nonrunning I.V. route.
4. Changing I.V. containers.

Student's Name________________________________

Passed____________________Failed____________

SKILL EVALUATION #1: SECONDARY SURVEY OF NON-COMMUNICATIVE VICTIM

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedure to the satisfaction of the instructor.

____A. Perform steps necessary for a primary survey.

____B. Monitor victim's radial pulse.

____C. Gather information from bystander (instructor) concerning what happened

____D. Observe visually for signs. Indicate situation to instructor concerning:

1. Any blood loss or wounds.
2. Skin pallor.
3. Skin temperature and moisture.
4. Degree of skin profusion.
5. Any deformities, depressions, or protrusions.
6. Pupil size and reactivity.

____E. Evaluates victim by physical examination of the victim and includes all parts of the body in the examination.

____F. Summarizes victim's condition and determines next steps to be taken. Instructor will indicate certain signs (e.g., weak pulse, rapid respiration, deformed forearm, etc.) and student will indicate the next steps to take. Four combinations of signs will be given for the student's evaluation.

Student's Name_______________________________

Passed_________________Failed_____________

SKILL EVALUATION #2: SECONDARY SURVEY OF A COMMUNICATIVE VICTIM

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedures to the satisfaction of the instructor.

____A. Gather information from victim concerning the victim's condition. Instructor will have victim simulate a set of symptoms, but will not inform the student as to what those symptoms are.

____B. Take victim's radial pulse.

____C. Observe visually for signs. Indicate the situation to the instructor concerning:

1. Any blood loss or wounds.
2. Skin color or pallor.
3. Skin temperature or moisture.
4. Degree of skin profusion.
5. Any deformities, depressions, or protrusions.
6. Pupil size and reaction.

____D. Feel victim for pain and numbness. Victim will indicate where pain and numbness are felt.

____E. Summarize victim's condition and determine next steps to be taken. Instructor will indicate certain signs (e.g., weak pulse, rapid respiration deformed forearm, etc.) and student will indicate the next steps to take. Four combinations of signs will be given for the student's evaluation.

Student's Name________________________

Passed________________Failed____________

SKILL EVALUATION #[illegible]: TAKING DIAGNOSTIC AND VITAL SIGNS

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedures to the satisfaction of the instructor.

____A. Review steps of primary survey.

____B. Review steps of secondary survey.

____C. Take victim's blood pressure using a sphygmomanometer. The student should:

  ____Expose arm and properly position blood pressure cuff.
  ____Properly position diaphragm of stethoscope.
  ____Inflate cuff to 200 mm hg.
  ____Slowly releases pressure and mentally records systolic and diastolic pressure.
  ____Inform instructor of reading.

____D. Evaluate the reading obtained. Instructor will present three other readings for evaluation by the student. The instructor will also provide other descriptive information only when requested.

____E. Monitor victim's radial pulse for rate, rhythm, and strength. The student should:

  ____Locate radial artery and palpate with finger tips.
  ____Palpate pulse for one minute.
  ____Inform instructor of reading.

____F. Evaluate the reading obtained. Instructor will present three other combinations of pulse readings to be evaluated. Other information will be supplied as requested.

____G. Monitor victim's respirations for rate, rhythm, and depth.

____H. Evaluate victim's respirations. Instructor will present three other combinations of respirations to be evaluated. Other information supplied as requested.

____I. Determine skin temperature, moisture, and color.

____J. Evaluate victim's skin temperature, moisture, and color. Instructor will present three other results to be evaluated. Other information will be supplied as requested.

SKILL EVALUATION #3: TAKING DIAGNOSTIC AND VITAL SIGNS (Continued)

____K. Determine pupil reaction using penlight.

____L. Evaluate pupil reaction. Instructor will present three other results to be evaluated. Other information will be supplied as requested.

____M. Determine victim's state of consciousness. The student should demonstrate the proper technique of determining horizontal nystagmus.

____N. Evaluate the state of consciousness in terms of level and length of time. Instructor will present three other results to be evaluated. Other information will be supplied as requested.

____O. Determine if paralysis is present. The student should:

____Request patient to wiggle or move extremities.
____If patient is non-communicative, use pointed object to prick extremities.

____P. Evaluate the result of the paralysis determination. Instructor will present three other results to be evaluated. Other information will be supplied as requested.

Student's Name_______________________________

Passed __________________Failed____________

SKILL EVALUATION #4: TREATMENT OF SHOCK

(Please check those elements which are done incorrectly, out of sequence, or ommitted.)

The student will demonstrate on a fellow student the following procedures to the satisfaction of the instructor.

____A. Perform steps of primary survey.

____B. Perform steps of secondary survey.

____C. Instructor will inform student that victim is in shock. Student will tell instructor the signs which indicate that shock is present.

____D. Treat victim for shock. Student will indicate the major steps including:

  ____Patient in supine position.
  ____Lower extremities elevated.
  ____Body temperature maintained.
  ____Administer oxygen.

____E. Administer oxygen. The student should be able to:

  ____Assemble oxygen tank and reduction system.
  ____Demonstrate proper application of oxygen mask or nasal cannula.
  ____Adjust oxygen flow to designated level.
  ____Demonstrate proper administration of oxygen using an approved manual PPV device (demand valve).
  ____Dismantle and depressurize system.

SECONDARY SURVEY AND SHOCK

TASK I

SECONDARY SURVEY OF COMMUNICATIVE PATIENT

ELEMENTS	EXPLANATION
	Assumes patient is conscious and able to communicate with rescuer well enough to assist the rescuer in the assessment of the problem.
1. The rescuer must talk to the patient to: A. reassure the patient that he or she will be cared for B. gather information about the patient's physical condition by inquiring for painful areas and the patient's perception of the problem. If problem is medically oriented, gather patient's medical history information by asking the patient and/or family, if present, such things as: A. If anything like this has occurred before and if so, when and how often. B. If the patient has seen a doctor recently. C. If the patient is on any medication. D. How long this current problem has been going on. If problem is trauma oriented, gather information by asking the patient and/or family or bystanders, if present, such things as: A. Time incident occurred. B. Specifics concerning impact or contact which has a direct effect upon patient. C. Any other condition which may have caused trauma to the patient. D. Where is the pain. E. Is there any loss of feeling.	The rescuer can gather valuable information about the patient's condition since the patient's description of pain, its location, and what caused it are important pieces of information if the rescuer is to accurately determine the exact nature of the problem. When reassuring a patient, the rescuer should never lie or mislead the patient by saying such things as, "Don't worry; everything will be just fine." It is obvious to the patient at this point that everything is not going to be all right since the patient has been injured and you have been called to the scene. If any individual in the emergency medical services system lies to a patient or misleads a patient, the job of the rest of the EMS team will be that much more difficult since the patient will question anything else that is said. If the patient has any unreasonable fears, the rescuer should attempt to alleviate those fears by explaining the situation and informing the patient of what activities are occurring and why. If there is nothing good to say, be honest in what is said and remain neutral concerning topics of discussion. If the patient does not have sincere fears and anxieties, those fears and anxieties may lead to traumatic shock which can be equally as damaging to the patient's physiological well being as any traumatic injury. During the entire survey process, the rescuer should first find out the patient's name and then continue to use the patient's name in a polite and courteous manner throughout the entire survey procedure. This use of the patient's name will generally assist in showing a personal

SECONDARY SURVEY AND SHOCK

TASK I (CONTINUED)

SECONDARY SURVEY OF COMMUNICATIVE PATIENT

ELEMENT	EXPLANATION
	interest in the patient and generally results in alleviating some of the anxiety and discomfort which the patient may be feeling.
2. Feel the radial pulse and monitor that pulse during the survey. This may be done by placing the tips of three fingers on the inside of the forearm, approximately one inch from the heel of the palm of the hand or the thumbside of the forearm. (Do not use the thumb to palpate pulse.)	The pulse is monitored with light pressure from the second and third finger tips on the radial pulse. The purpose of this procedure is not necessarily to count the pulse but to note its strength, rhythm, and general rate. This monitoring process should occur during the entire survey of the patient, if possible; this allows the rescuer to monitor any changes which may occur in the pulse.
3. While gathering the information from the patient, the rescuer should observe other aspects of the patient's physical condition including: A. any blood loss or wounds B. the color and pallor of the patient's skin C. the relative temperature and moisture of the skin D. the degree of skin profusion E. any deformities, depressions, or protrusions F. pupil size and reaction	While talking to the patient, the eyes of the rescuer must continue to scan the patient in an effort to gather as much information as possible (using all of the senses available to the rescuer) in as short a period of time as possible. All of the survey signs listed in Element #3 can be checked in less than 15 seconds and no equipment is required. (See Task 3 on "Diagnostic and Vital Signs.")
4. If the nature of the problem is trauma-related, the rescuer must determine what actions caused the patient's injury by: A. observing patient's present position B. determining previous position of the patient (if appropriate) C. observing items which may have come in contact with the patient or which may have caused movement of a harmful nature.	The rescuer can obtain a great deal of information concerning the patient's problem by determining the mechanism of injury (i.e., what caused the injury). This will help the rescuer in determining what actions caused injury to what portions of the body (e.g., if a driver has a headrest in the down position and his/her car is hit from behind, there is a high probability of a cervical spine injury).

SECONDARY SURVEY AND SHOCK

TASK I (CONTINUED)

SECONDARY SURVEY OF COMMUNICATIVE PATIENT

ELEMENTS	EXPLANATION
The rescuer should also make a quick survey of the victim by feeling areas of the patient's body and asking if there is any pain or numbness.	In this element, the rescuer is quickly feeling for any deformities. It is necessary to do this because the patient may not be aware of an injury because his/her mind is concentrating on a more painful injury (e.g., open fracture of ulna). In this way, rescuer will not overlook any injuries.
5. Check for horizontal nystagmus on left or right gaze to determine level of consciousness and simultaneously observe pupils for degree of dilation and reaction to light.	This procedure involves asking the patient to look at the rescuer's finger which is located about twelve inches from the patient in the far left of the victim's range of vision. Quickly move the finger to the far left of vision field. The rescuer repeats this process from right to left. The rescuer closely observes the pupils of the eyes to determine if they "wobble" when trying to focus on the object at the right or left. If the pupils do "wobble" on a left or right gaze, this indicates that the patient is not at a full level of consciousness and may, in fact, tend to become less alert as time grows on.
6. At this point, the rescuer should have a cursory evaluation of the patient's condition. (If the patient has more than one problem, e.g., broken arm and sprained wrist, go to task "Multi-Problem Triage") (If patient has a medical problem, go to task "Medical Emergencies") (If patient has a trauma-related problem, go to task for treatment of specific injury) (If patient is going to give birth, go to task "Emergency Childbirth") (If patient's problem is psychiatric, go to task "Handling of the Emotionally Disturbed Patient")	Certain tentative conclusions may be drawn from certain indications received from the primary signs and symptoms observed.

SECONDARY SURVEY AND SHOCK

TASK II

SECONDARY SURVEY OF NON-COMMUNICATIVE PATIENT

ELEMENTS	EXPLANATION
	Assumes that patient cannot communicate with the rescuer and that the rescuer will not receive any assistance from the patient in determining the problems which exist.
1. Determine if the patient has any life-threatening or serious problem which is evident (sucking chest wound, severe evisceration, severe bleeding in neck region). (If serious problem is present, go to appropriate task for treatment.)	It should be apparent that any serious injury which is a threat to life should be treated before secondary survey is begun. A severe wound is defined as a penetrating or perforating wound to neck, chest, or abdomen.
2. Palpate radial artery and monitor that pulse during survey. This may be done by placing the tips of three fingers on the inside of the forearm approximately one inch from the heel of the palm of the hand on the thumb-side of the forearm. (Do not use the thumb to palpate pulse.)	The pulse is monitored with light pressure from the second and third finger tips on the radial pulse. The purpose of this procedure is not necessarily to count the pulse, but to note its strength, rhythm, and general rate. This monitoring process should occur during the entire survey of the patient, if possible; this allows the rescuer to monitor any changes which may occur in the pulse.
3. Determine if incident appears to be trauma or medically-related. (If problem is trauma-related, go to LOOP 1)	It is necessary to make a quick evaluation of the situation to determine nature of problem (e.g., auto accident would indicate trauma).
4. Gather patient's medical history information by asking the family, if present, such things as: A. If anything like this has occurred before and if so, when and how often. B. If the patient has seen a doctor recently. C. If the patient is on any medication. D. How long has this current problem been going on.	
5. While gathering the information, rescuer should observe other as-	The eyes of the rescuer must continue to scan the patient in an effort to

SECONDARY SURVEY AND SHOCK

TASK II (CONTINUED)

SECONDARY SURVEY OF NON-COMMUNICATIVE PATIENT

	ELEMENTS	EXPLANATION
	pects of the patient's physical condition including: A. any blood loss or wounds B. the color and pallor of the patient's skin C. the relative temperature and moisture of the skin D. the degree of skin profusion E. any deformities, depressions, or protrusions, and, F. pupil size and reactivity.	gather as much information as possible (using all of the senses available to the rescuer) in as short a period of time as possible. All of the survey signs listed in Element #2 can be checked in less than 15 seconds and no equipment is required. (See task on "Diagnostic & Vital Signs" Task 3)
6.	At this point, the rescuer should have a cursory evaluation of the patient's condition. (If the patient has more than one problem, e.g., broken arm and sprained wrist, go to task "Multi-Problem Triage" in Module VII) (If patient has a medical problem, go to task "Medical Emergencies" in Module VIII) (If patient has a trauma-related problem, go to task for treatment of specific injury) (If patient is going to give birth, go to task "Emergency Childbirth" in Module XII) (If patient's problem is psychiatric, go to task "Handling of the Emotionally Distrubed Patient" in Module XI)	We are assuming that if no trauma is found, the problem is defined as medical.

SECONDARY SURVEY AND SHOCK

TASK III

DIAGNOSTIC & VITAL SIGNS

This task defines the nine basic diagnostic and vital signs which should be evaluated during the survey of any patient. Because these evaluations may occur during different times of a total survey, they have been grouped together at this point. Their order of presentation in this task does not necessarily indicate the order in which they are to be performed.

ELEMENTS	EXPLANATION
	Assumes that the rescuer is conducting a general survey to determine the condition of the patient.
BLOOD PRESSURE	
	Assumes that a sphygmomanometer and stethoscope are available.
1. During the entire process of obtaining the blood pressure, the patient should be instructed to remain motionless and in a comfortable position.	It should be explained to the patient that movement will make it difficult to obtain an accurate reading.
2. Place the sphygmomanometer (blood pressure cuff) around the patient's left bicep (if that area is injured or inaccessible, use the right bicep) and connect the cloth cuff snugly so that the pressure gauge is visible to the rescuer. The lower border of the cuff should be approximately one inch from bend in the arm at the elbow.	In the routine ambulance call, the patient's left arm is the one which is most accessible enroute to the hospital. This is due to the fact that the patient is usually located on the driver's side of the vehicle with his/her head toward the front of the vehicle and on his or her back. Therefore, the patient's left arm is toward the center of the vehicle, and if the sphygmomanometer is on that arm, the rescuer may periodically monitor the blood pressure on the way to the hospital. It should be noted at this time that a blood pressure cuff may have the same effect as a tourniquet if the cuff is kept inflated. Be sure that any pressure exerted by the cuff does not last for any length of time.
3. The diaphragm of the stethoscope should be placed over the brachial artery just below the blood pressure cuff and just above the bend or fold in the elbow toward the inside of the arm. The other	It may be helpful to palpate the brachial artery to assist in determining exactly where to place the stethoscope. The earpieces of the stethoscope may transmit bacteria from the ears of one rescuer to another. As a precaution,

SECONDARY SURVEY AND SHOCK

TASK III (CONTINUED)

DIAGNOSTIC & VITAL SIGNS

ELEMENTS	EXPLANATION
ends of the stethoscope are placed in the ears of the rescuer. The diaphragm should be held in place with the fingers and not the thumb.	all stethoscope earpieces must at least be cleaned in an alcohol solution after use.
4. Shut the valve of the inflating bulb (if screw-type, turn screw clockwise; if push-button type, do not push button) and repeatedly squeeze the bulb until the needle of the gauge reaches 180mm Hg. (Millimeters of Mercury). If the needle continues to move with each pulse beat, it will be necessary to pump the cuff to a higher pressure until the movement stops.	
5. Open the valve near the inflating bulb (in the screw-type, by turning the screw very slowly in a counter-clockwise direction; in the push-button type, by depressing the button very slowly to allow air to escape and the needle to drop approximately 5mm Hg. per second.)	Air must be released slowly enough to allow an accurate reading of gauge.
6. Two numbers must be recorded: A. The point on the gauge at which the pulse is first heard through the stethoscope (i.e., the systolic pressure). B. The point on the gauge at which the pulse is last heard through the stethoscope (i.e., the diastolic pressure).	The blood pressure of a given patient tends to vary, based upon age and sex. The normal systolic pressure for an adult is 100 + the man's age (up to 140 or 150 mm Hg.) and the normal diastolic pressure for an adult male is 65-85 mm Hg. Both pressures are usually 8-10 mm Hg. lower in the female. A tolerance of 10 mm. Hg. is the generally accepted standard; however, in the case of a low blood pressure (e.g., 98/50 mm Hg.), the tolerance becomes more critical as does the relationship between more than one pressure reading.
7. Record blood pressure on trip sheet. Do not try to remember blood pressure.	

SECONDARY SURVEY AND SHOCK

TASK III (CONTINUED)

DIAGNOSTIC & VITAL SIGNS

ELEMENTS	EXPLANATION	
PULSE		
1. Palpate radial artery by placing the tips of three fingers on the inside of the forearm approximately one inch from the heel of the palm of the hand on the thumb-side of the forearm. (Do not use thumb to palpate artery.)	An alternate method is to palpate carotid artery by placing three fingers on the windpipe (trachea) midway between the chin and the top of the breastbone (sternum) and then sliding them approximately one inch to the side. Artery must be palpated gently, or pulse will be obliterated.	
2. Monitor pulse for one minute and record rate. Evaluate rhythm and strength.	OBSERVATION	INDICATION
	Absent	Cardiac arrest, death
	Rapid, bounding	Fright, hyperextension
	Rapid, weak	Shock
RESPIRATIONS		
1. If patient is unconscious, check respirations by bending over patient and placing ear close to patient's mouth and nose. Turn head so that chest movements can be observed.	Check both rate and depth.	
If patient is conscious, check respirations by placing hand on patient's lower rib cage and feeling expansion and contractions. Also, observe patient's movement.	Every effort should be made to avoid letting the patient know the respiration is being measured, because there will be an unconscious tendency to control the rate. This may be done by grasping wrist as if taking a pulse and resting the patient's hand on the rib cage.	
2. Monitor respirations for one minute and record rate. Also, evaluate depth and sound.	OBSERVATION	INDICATION
	None	Respiratory arrest
	Deep, gasping, labored	Airway obstruction, heart failure
	Bright red, frothy blood with each exhalation	Lung damage

SECONDARY SURVEY AND SHOCK

TASK III (CONTINUED)

DIAGNOSTIC & VITAL SIGNS

ELEMENTS | EXPLANATION

SKIN TEMPERATURE & MOISTURE

1. Determine patient's skin temperature and moisture by feeling skin surface with back of the hand.
2. Record observation on trip sheet.

OBSERVATION	INDICATION
Hot, dry	Excessive body heat (as in heat stroke), high fever
Cool, clammy	Shock
Cool, moist	Body is losing heat
Cool, dry	Exposure to cold

SKIN COLOR

1. Examine patient's face and hands for determination of skin color.
2. Record observation.

The lips and nail beds provide the best areas for color determination

OBSERVATION	INDICATION
Red skin	High blood pressure, carbon monoxide poisoning, heart attack
White skin	Shock, heart attack, fright
Blue skin	Asphyxia, anoxia, heart attack, poisoning

PUPIL REACTION

1. Examine pupils by gently sliding back the upper lid with the thumb.
2. Examine both eyes, since pupils may vary in size.
3. If pupils are dilated, check for reactivity to light, by flashing

The rescuer should be aware that tension in the upper lid may occur only in conscious patients.

SECONDARY SURVEY AND SHOCK

TASK III (CONTINUED)

DIAGNOSTIC & VITAL SIGNS

ELEMENTS | EXPLANATION

light into the eyes. Normally, pupils will constrict in the presence of light.

4. Record observation.

OBSERVATION	INDICATION
Dilated	Unconsciousness, Cardiac Arrest
Constricted	Disorder affecting the central nervous system, drug use
Unequal	Head injury, stroke

STATE OF CONSCIOUSNESS

1. Observe patient's state of consciousness. Testing for horizontal nystagmus will evaluate consciousness.
2. Monitor patient's state to observe any change.
3. Record observation.

OBSERVATION	INDICATION
Brief unconsciousness	Simple fainting
Confusion	Alcohol use, mental condition, slight blow to the head
Stupor	Severe blow to the head
Deep coma	Severe brain damage, poisoning.

PARALYSIS

1. If patient is conscious, ask patient for feelings of numbness or tingling sensation, and whether or not he/she can move extremities voluntarily.

SECONDARY SURVEY AND SHOCK

TASK III (CONTINUED)

DIAGNOSTIC & VITAL SIGNS

ELEMENTS	EXPLANATION
If patient is unconscious, prick the palm of the hand and the soles of the feet with a sharp object. If no cord damage exists, stimulus will cause involuntary muscle reaction.	
2. Record observation.	

OBSERVATION	INDICATION
Lower extremities	Injury to spinal cord in the lower back
Upper extremities	Injury to spinal cord in the neck
Paralysis limited to one side	Stroke, head injury with brain damage

PAIN

ELEMENTS	EXPLANATION
	Assumes patient is conscious and can communicate.
1. Ask patient where the pain or discomfort is.	
2. Compare complaints of pain to obvious signs and mechanisms of injury	
3. Record observation.	

OBSERVATION	INDICATION
General pain present at injury sites	Injuries to the body, but probably no damage to the spinal cord
Local pain in the extremities	Fracture, occluded artery to extremity
No pain, but obvious signs of injury	Spinal cord damage, hysteria, violent shock, excessive drug or alcohol use

SECONDARY SURVEY AND SHOCK

TASK IV

TREATMENT FOR SHOCK

ELEMENTS	EXPLANATION
	Assumes that shock has been indicated by the presence of the following signs: A. restlessness and anxiety B. pulse weak and rapid C. skin cold and clammy D. profuse sweating E. respiration shallow, labored, rapid, or irregular F. eyes dull or lusterless, and, G. blood pressure drops.
	Assumes treatment of shock is now a priority and the following equipment is available: A. blanket, and, B. oxygen administration equipment.
1. Determine type of shock or related cause (e.g., hemorrhagic, septic, psychogenic). (If patient is suffering from anaphylactic shock, LOOP 2)	
2. Place patient in supine position and avoid movement.	This avoids taxing circulatory system.
3. Maintain patient's body temperature.	Avoid over-heating patient, but remember to place blanket below patient when lying on the ground.
4. Administer oxygen. (See LOOP 4 "Oxygen Therapy.")	When patient is in shock, the vital organs will not receive the normal amount of oxygen unless oxygen is supplemented to the lungs.
5. If head or chest trauma is present, elevate upper part of body slightly.	
6. Determine if intravenous therapy should be resecured.	
7. Determine if IV container needs changed (LOOP 3, Element 10).	

SECONDARY SURVEY AND SHOCK

TASK IV (CONTINUED)

TREATMENT FOR SHOCK

ELEMENTS	EXPLANATION
8. Determine if all wounds have been treated. If all wounds have not been treated, go to task on "Multi-Problem Triage."	
9. Determine if patient is in life-threatening condition. If yes, prepare to transport. (Transportation Task")	
10. Determine if all patients have been treated. If not, go to Task "Multi-Patient Triage."	
11. Prepare to transport.	

SECONDARY SURVEY AND SHOCK

SECONDARY SURVEY OF NON-COMMUNICATIVE PATIENT

LOOP 1

Survey for Trauma

ELEMENTS	EXPLANATION
1. The rescuer must determine what actions caused the patient's injury by: A. Observing patient's present condition. B. Determining previous position of the patient (if appropriate) C. Observing items which may have caused movement of a harmful nature.	The rescuer can obtain a great deal of information concerning the patient's problem by determining the mechanism of injury (i.e., what caused the injury). This will help the rescuer in determining what actions caused injury to what portions of the body (e.g., if a driver has a headrest in the down position and the car is hit from behind, there is a high probability of a cervical spine injury).
2. Gather information by asking the family or bystanders, if present, such things as: A. time incident occurred B. specifics concerning impact or contact which had a direct effect upon the patient C. any other conditions which may have caused trauma to the patient	
3. Check the scalp for lacerations and/or contusions by observing for blood in the hair, placing the hands on either side of the neck and sliding the fingers upward and toward the top of the head.	The rescuer must be careful not to move the head while checking for scalp wounds since it is not clear at this point if the cervical spine is injured.
4. Check the skull for depressions and/or any protruding bone fragments by gently feeling the skull with the finger tips.	Care still must be exercised not to move the head in case the cervical spine is injured. The rescuer must also be careful in this procedure not to press so hard on the skull that any bone fragments are pushed into the brain.
5. Check the ears and nose for fluid and/or blood by looking carefully in the nostrils and at the opening of the ears.	A clear water-like fluid in either the nose or ears is probably cerebrospinal fluid (the fluid which surrounds and cushions the brain from shock) which indicates the possibility of serious brain injury.

SECONDARY SURVEY AND SHOCK

SECONDARY SURVEY OF NON-COMMUNICATIVE PATIENT

LOOP 1 (CONTINUED)

Survey for Trauma

ELEMENTS	EXPLANATION
	Blood in either location may be from two sources: A. lacerated brain tissue; and/or, B. damage to tissue in the nose or the ear. The rescuer should determine as closely as possible, where the source of blood is originating. When in doubt, assume that there is the possibility of brain damage.
6. Check the neck for fractures by looking and feeling for deformity of bony protrusions in the cervical spine area. (If a cervical spine injury is suspected, go to the task of immobilization of a spine injury.)	If the cervical spine is injured, the neck may be fixed in an abnormal position. If it is, the patient should not be moved or examined further until the cervical spine is completely immobilized.
7. Observe and check the chest for movement on both sides and for possible fractures from a position at the head of the patient. Look down the chest to see if the chest is rising and falling in a normal manner (i.e., together) and gently feel the rib cage for possible fractures.	If the chest is not rising and falling in a normal manner, rib and/or lung damage may be present. If depressions are detected or a grating sensation is felt, rib fractures may be present. If a male rescuer is examining a female patient, it may be necessary to offer an explanation to bystanders concerning the purpose of the described procedures.
8. Check the abdomen for spasms and tenderness by gently pressing against the abdomen.	If the abdomen is very hard and "rock-like", there is a strong possibility that there is massive internal hemorrhage and/or the contents of the abdominal organs have been displaced and spilled into the abdominal cavity.
9. Check the pelvic area for fractures by feeling the entire pelvic girdle for bony protrusions, depressions, grating and deformity. Observe legs for outward rotation.	Outward rotation of one or both legs is characteristic of a fractured hip. If the rescuer is examining a patient of the opposite sex, this may also be a difficult procedure and it may be necessary to offer an explanation.

SECONDARY SURVEY AND SHOCK

SECONDARY SURVEY OF NON-COMMUNICATIVE PATIENT

LOOP 1 (CONTINUED)

Survey for Trauma

ELEMENTS	EXPLANATION
10. Check the upper and lower extremities for fractures by looking for: A. swelling and discoloration B. lumps or bony protrusions C. bruises and other external trauma, and, D. deformity.	
11. Check lower extremities for paralysis by probing the bare soles of the feet with a sharp instrument (or the skin of the ankles above the shoes) and observing for the involuntary muscular reaction to pain (i.e., the patient's leg will flinch).	If there has been spinal cord damage, the involuntary muscular activity will not occur.
12. Check the upper extremities for spinal cord damage by probing the pelvis of the hand with a sharp instrument and observing for the involuntary muscular reaction. (If there is any evidence of spinal cord damage, go to the task of immobilization of a spine injury, Module V).	If there is no involuntary muscular activity, there has been spinal cord damage in the cervical spine area. If this test produces a reaction in the upper extremities but not in the lower extremities, the cord damage has occurred below the area of the cervical spine. If there is the slightest possibility of spinal cord damage, the patient's entire spine should be immobilized before the patient is moved.
13. If no spinal cord damage is apparent, roll patient into a position so that the back and buttocks may be examined for fractures or wounds. (If no trauma is indicated, go to Task 2 Element #4).	The back and buttocks area should be checked with as little body motion as possible since the possibility of of a spinal fracture cannot be eliminated even though, at this point, it does not appear to be cord damage. Once all patients have been surveyed and priorities have been established between patients, the rescuer must begin to methodically treat priority patients.

SECONDARY SURVEY AND SHOCK

TREATMENT FOR SHOCK

LOOP 2

Treatment of Anaphylactic Shock

ELEMENTS	EXPLANATION
	Assumes patient is suffering anaphylactic shock. Anaphylactic shock should be considered an emergency situation.
1. Place patient in prone position and avoid patient movement.	
2. Determine cause of anaphylactic reaction.	This will be important to the hospital personnel for definitive treatment.
3. Administer oxygen. (See appropriate task "Oxygen Therapy" LOOP 4)	Oxygen must be supplemented so that vital organs may receive an adequate supply.
4. Transport patient. (Go to task "Transportation" Module IX)	

SECONDARY SURVEY AND SHOCK

TREATMENT FOR SHOCK

LOOP 3

Intravenous Therapy Problem

ELEMENTS	EXPLANATION
	Assumes that an I.V. has been started by a physician, R.N., and/or paramedic. Further assumes that properly trained, well supervised individuals (not an EMT) are available to start I.V. (It should be noted at this time that this information is presented to the students in an effort to increase their understanding of I.V. therapy but not to teach them the actual skill of starting I.V.'s.) Assumes the following equipment is available: A. appropriate sized angiocaths B. I.V. solutions (e.g., ringer's lactate, 5% dextrose/water) C. venopac-administration set D. alcohol swabs E. tourniquet F. adhesive tape G. armboard H. I.V. arm or infusor trainer.
1. If not bleeding profusely from disconnected intravenous site, cut and prepare tape.	
2. Using sterile gloves, remove wet or loose tape from I.V. site.	Bleeding profusely due to dislodgement of I.V. tubing or angiocath, aseptic technique may be bypassed. Note on run sheet NO ASEPTIC TECHNIQUE.
3. Cleanse site with betadine swab.	
4. Dry area around I.V. site.	
5. Apply dry sterile 2 x 2 dressing.	
6. Secure needle in place with two strips of adhesive tape.	
7. Form a small "U" with the tubing and tape into position on the back of the hand such that the auxiliary injection site on plastic tubing is easily accessible.	

SECONDARY SURVEY AND SHOCK

TREATMENT FOR SHOCK

LOOP 3 (CONTINUED)

Intravenous Therapy Problem

ELEMENTS	EXPLANATION
8. Position arm on armboard and secure in position with tape.	Be sure the tape does not restrict venous flow.
9. Monitor drip chamber to insure prescribed flow. (Go to Task Element #7.) (If I.V. solution container has 25 ml. or less solution, prepare to change container.)	
10. Stop emergency vehicle.	
11. Obtain I.V. solution.	
12. Remove new I.V. solution entry portal covering.	
13. Stop main I.V. line.	
14. Disconnect empty I.V. container from I.V. tubing and attach new I.V. solution.	
15. Regulate I.V. flow to prescribed rate, after stabilizing container.	
16. Check I.V. tube for patencey.	
17. Note time and amount of solution on Run Sheet. Do not discard empty I.V. container.	Present empty I.V. solution container to emergency room staff, for verification.

SECONDARY SURVEY AND SHOCK

OXYGEN THERAPY

LOOP 4

ELEMENTS	EXPLANATION
	Assumes that the patient is in a condition which indicates the administration of oxygen. Further assumes that the following equipment is available: A. nasal cannula B. oxygen mask C. bag-valve mask/reservoir tube D. demand valve unit E. oxygen tank F. oxygen pressure regulator with flow meter
1. If patient is conscious, explain what the oxygen is for and what the device is that is going to be used for administration.	Patients who are having difficulty breathing or are in a state of shock will be very apprehensive, especially if a mask is going to be placed over their face.
2. Select appropriate device to administer oxygen. (If bag-valve mask is selected, LOOP 5) (If demand valve is selected, LOOP 6) (If oxygen mask is selected, LOOP 7)	
3. Place curved plastic prongs into nostrils.	Prongs should curve downward following the natural curvature of the nostril.
4. Stabilize tubing in nostrils and loop tubing around ears.	Nasal cannulas vary in design. If the cannula has an elastic band on it, loop elastic band over patient's head.
5. Slide loop around the tubing up under the chin to secure cannula in place.	It is not necessary to slide this loop until the cannula is tight, but merely secure.
6. Attach tubing to oxygen regulator.	
7. Crack oxygen tank by turning the main valve in a clockwise direction.	
8. Adjust flow meter at approximately 6-10 liters per minute.	

SECONDARY SURVEY AND SHOCK

OXYGEN THERAPY

LOOP 4 (CONTINUED)

ELEMENTS	EXPLANATION
9. Determine if all problems have been treated. (If all problems have not been treated, go to "Multi-Problem Triage." Module VII)	
10. Determine if patient is in a life-threatening condition. (If yes, go to "Transportation" Module IX)	
11. Determine if all patients have been treated. (If no, go to "Multi-Patient Triage" Module VII)	
12. Prepare to transport.	

SECONDARY SURVEY AND SHOCK

OXYGEN THERAPY

LOOP 5

Bag-Valve Mask

ELEMENTS	EXPLANATION
	Assumes that the bag-valve mask has been selected to administer oxygen. Assumes reservoir tube is available and has been connected to the large fitting at the back of the bag unit in the bag-valve mask device. Further assumes that the patient is breathing on own and only oxygen is required.
1. Place mask over patient's mouth and nose with pointed part of the mask fitting over the bridge of the nose.	
	Assumes that the patient is unconscious.
2. If bag is to be used to assist the breathing, form an airtight seal by placing the thumbs on the rim of the mask closest to the patient's nose and the index and middle fingers on the chin side of mask forming a "C" clamp grip on the mask. The ring finger and the little finger of the same hand are used to grip and lift upward on the mandible.	If patient is unconscious, simply hold mask close to face.
3. Connect oxygen connector tubing from oxygen regulator to small fitting at the back of the bag unit.	
4. Crack oxygen tank by turning the main valve in a clockwise direction.	
5. Set flow meter at approximately 10 liters per minute.	
6. As patient begins to inhale, squeeze bag with thumb and fingers to administer oxygen.	
7. Continue procedure as required. (Go to Task 4 Element 5)	

SECONDARY SURVEY AND SHOCK

OXYGEN THERAPY

LOOP 6

Demand Valve

ELEMENTS	EXPLANATION
	Assumes that the demand valve unit has been selected to administer oxygen.
1. Place mask over patient's mouth and nose with pointed part of the mask fitting over the bridge of the nose.	
2. Form an airtight seal by placing the thumb on the rim of the mask closest to the patient's nose and the index and middle fingers on the chin side of the mask forming a "C" clamp grip on the mask. The ring finger and the little finger of the same hand are used to grip and lift upward on the mandible.	If patient is conscious, have the patient hold mask in position. In many cases, it will be beneficial to have the patient assist.
3. Crack oxygen tank by turning the main valve in a clockwise direction.	
4. As patient inhales, oxygen will be released by demand valve if airtight seal is maintained.	
5. If the demand unit is to be used to assist the patient in breathing, as patient begins to inhale, depress button on demand valve until the chest rises then release button.	Assumes that patient is unconscious.
6. Continue process as required. (Go to Task 4 Element 5)	

SECONDARY SURVEY AND SHOCK

OXYGEN THERAPY

LOOP 7

Oxygen Mask

ELEMENTS	EXPLANATION
	Assumes that the oxygen mask has been selected for oxygen administration.
1. Place mask over patient's mouth and nose with pointed part of the mask fitting over the bridge of the nose.	
2. Slide elastic band behind patient's head to secure mask in place.	
3. Attach tubing to oxygen regulator.	
4. Crack oxygen tank by turning the main valve in a clockwise direction.	
5. Adjust flow meter to approximately 4-6 liters per minute.	
6. Continue as required. (Go to Task 4 Element 5)	

MODULE IV

SOFT TISSUE INJURIES

SOFT TISSUE INJURIES

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the student will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80% of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a list of techniques of controlling bleeding in various sequences, the student will be able to recognize the correct sequence of the techniques (first to last) as they should be tried in controlling bleeding. (Review)

2. Given a list of activities, the student will be able to correctly recognize the activities that need to be performed after the application of a tourniquet; e.g., tagging the patient. (Review)

3. Given a list of pressure points (arteries), the student will be able to select the correct pressure point to be used to control bleeding from the following areas:

   A. Arm
   B. Leg
   C. Neck
   D. Scalp
   E. Face
   F. Chest wall or armpits. (Review)

5. Given a list of activities, the student will be able to correctly recognize the activity to be performed if a dressing becomes blood soaked.

6. Given a list of situations involving the lodging of an impaled object, the student will be able to correctly identify the situation(s) in which the impaled object should be removed.

7. Given a list of reasons, the student will be able to recognize the correct reason why an uninjured eye should also be bandaged when the other eye has been avulsed.

8. Given a list of activities and justifications for those activities, the student will be able to recognize the correct activity and justifications for preserving the avulsed part in a glove avulsion accident.

9. Given a list of activities, the student will be able to recognize the correct activities to be performed in a case of a:

   A. Dry chemical burn
   B. Wet Chemical burn

   to any part of the body including the eye.

10. Given that a patient has suffered from an electrical burn, the student will be able to recognize from a list of events the most probable event (e.g., the student will recognize that an electrical burn results in an entrance and exit burn).

11. Given a list of definitions, the student will be able to correctly recognize the definition that describes:

    A. First degree burns
    B. Second degree burns
    C. Third degree burns

12. Given a list of percentages, the student will be able to recognize the correct percentage of the body burned given certain of the following body parts separately or in combinations:

    A. Head
    B. Arm (left and/or right)
    C. Leg (left and/or right)
    D. Front torso
    E. Back torso

    either for a child or an adult.

13. Given a list of severity of burns (critical, moderate, minor), the student will be able to correctly associate the severity of burns with a description; e.g., a description might read "second degree burns covering more than 30% of the body."

14. Given a list of types of sterile dressings (e.g., dry, slightly wet, soaked) the student will be able to recognize the correct type of dressing to apply on third degree burns.

15. Given that a patient has suffered from a light burn (overexposure to light), the student will be able to recognize from a list of activities, the correct activities required to treat, dress, and bandage the eye(s).

16. Given a list of water temperatures, the student will be able to recognize the correct water temperature or range of water temperatures to use when treating frostbite.

17. Given a list of alternatives, the student will be able to recognize the most acceptable alternative to treat frostbite when heated water is not available or the frostbitten section is impossible to immerse in heated water.

18. Given a list of activities, the student will be able to recognize the most inappropriate or wrong activity to be performed when dressing and bandaging an abdominal wound from which organs are protruding.

19. Given a list of injured areas (including the scalp and eyes), the student will be able to correctly recognize in which areas direct pressure should not be used to control bleeding.

20. Given a list of activities, the student will be able to recognize the correct activity to perform when a patient has suffered from a sucking chest wound.

21. Given a list of activities, the student will be able to recognize the correct activity to perform when a patient's condition with a sucking chest wound has worsened, and has already been treated, dressed, and bandaged (with airtight material).

22. Given a list of activities, the student will be able to recognize the correct activities to be performed when dressing and bandaging an injury to the cheek.

23. Given a list of situations, the student will be able to correctly identify those situations in which a saline solution should be used to treat a soft-tissue injury. The list will contain among other situations, the following situations:

    A. Amputation of a finger
    B. Exposure of small intestine in an abdominal injury

24. Given a list of activities, the student will be able to recognize the correct activity to be performed in the situation where a patient's clothing is sticking to the wound area.

25. Given a description of blood flow and color of blood, the student will be able to recognize the correct description and color for arterial, venous, and capillary bleeding.

26. Given a picture, graphic illustration, or definition of an open wound, the student will be able to correctly attach a label to each picture, graphic illustration, or definition. The picture, graphic illustration, or definition may depict any or all of the following open wounds:

    A. Puncture wound
    B. Abrasion
    C. Incision
    D. Laceration
    E. Avulsion

27. Given a list of "Do's" and "Don'ts" involved in dressing and bandaging an extremity, the student will be able to recognize the Don'ts (e.g., the student should recognize that fingers and toes should be exposed so that color changes can be noted).

28. Given a list of rules, the student will be able to correctly identify the rules for applying bandages.

29. Given a list of activities, the student will be able to correctly recognize those activities to be performed when treating a patient with suspected internal hemorrhage.

30. Given a list of events, the student will be able to correctly identify the event(s) most likely to occur in a severely bleeding neck wound; the list should contain the following events:

    A. Air entering the veins in neck
    B. Penetration into larynx or pharynx.

31. Given a list of activities, the student will be able to identify the correct activity(ies) to be performed when treating a severely bleeding neck injury (e.g., apply digital pressure above and below the wound).

32. Given a list of activities, the student will be able to identify the correct activity to be performed after treating, dressing, and bandaging a severe open wound (e.g., check and treat for shock).

33. Given a list of signs and symptoms, the student will be able to correctly recognize the signs and symptoms associated with shock and internal hemorrhage.

34. Given a list of accidents, the student will be able to correctly identify those accidents where internal bleeding should be suspected.

35. Given a list of definitions, the student will be able to correctly recognize the definitions associated with the following labels:

    A. Traumatic asphyxia
    B. Pneumothorax
    C. Tension pneumothorax
    D. Subcutaneous emphysema

36. Given a list of organs located in the abdomen, the student will be able to identify those organs in the abdomen which are solid and/or hollow. The list(s) should contain:

    A. Liver
    B. Spleen
    C. Pancreas
    D. Kidneys
    E. Stomach
    F. Duodenum
    G. Small intestines
    H. Colon
    I. Gall bladder
    J. Bladder

37. Given a list of symptoms, the student will be able to correctly identify those symptoms associated with abdominal injuries.

38. Given a list of symptoms, the student will be able to correctly recognize those associated with a suspected head injury.

39. Given a list of activities, the student will be able to correctly identify those activities to be performed when dressing and bandaging an eye or

scalp laceration (e.g., not to apply direct pressure if globe is lacerated and to apply those dressings to scalp injuries).

40. Given a list of statements comparing a dressing and a bandage, the student will be able to identify the statement which best defines and compares a bandage and a dressing.

SOFT TISSUE INJURIES

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given the following materials:

   A. Sterile dressings, clean cloth or clean handkerchief; and,
   B. A commercial tourniquet or a cravat and stick or other suitable materials

   and given another individual to serve as a victim (either the instructor or a fellow student), the student will be able to correctly control the simulated external bleeding of the victim's leg or arm. Successful performance involves the use of the following techniques (used in order):

   A. Direct Pressure
   B. Elevation of the extremity
   C. Application of pressure to pressure points
   D. Application of a tourniquet.

   The student must successfully accomplish all four activites to complete this objective. At the end of each activity, the instructor will inform the student that the bleeding has not stopped. The student will then be expected to use the next technique.

2. Given an unclothed practice arm with an impaled object or a simulated impaled object on a fellow student no longer than two (2) inches from the surface, sterile dressings, clean cloth or clean handkerchiefs, and a paper cup, the student will be able to correctly dress and bandage the wound. Successful performance involves the immobilization of the impaled object.

3. Given a victim (either a fellow student or the instructor) simulating an avulsed eyeball and/or a glove avulsion, sterile dressings, clean cloth or clean handkerchiefs, a paper cup, and water, the student will be able to correctly dress and bandage the simulated injured area. The student will be required to complete the objective for one of the two injuries. The injury will be determined by the instructor and may vary from student to student, but will not vary for a given student from attempt to attempt.

4. Given a victim (either a fellow student or the instructor) simulating either a dry or wet chemical or a second or third degree thermal burn of the forearm, sterile dressings, clean cloth or clean handkerchiefs, and water, the student will be able to correctly treat, dress, and bandage

the burned area. Successful performance involves only the treating, dressing, and bandaging of one of the types of burns. The type of burn will be determined by the instructor and may vary from student to student, but will not vary for a given student from attempt to attempt.

5. Given a victim (either a fellow student or the instructor) simulating the complete amputation of a hand at the wrist and sterile dressings, clean cloth or clean handkerchiefs, the student will be able to correctly dress and bandage the stump. Successful performance need not include the application of a saline solution.

6. Given a victim (either a fellow student or the instructor) simulating a sucking chest wound without the presence of an impaled object, sterile dressings, clean cloth or clean handkerchiefs, either plastic material or aluminum foil, and 3 inch tape, the student will be able to correctly dress and bandage the wound.

7. Given a victim (either a fellow student or the instructor) simulating a wound, where the abdomen is lacerated and an abdominal organ is protruding through the wound, and sterile dressings, clean cloth or clean handkerchiefs, the student will be able to correctly dress and bandage the wound.

8. Given a victim (either a fellow student or instructor) simulating an injury to the cheek or the neck and sterile dressings, clean cloth or clean handkerchiefs, the student will be able to correctly treat, dress, and bandage the injured area. The instructor will determine if the injury is a neck or cheek injury. Successful performance involves only the treating, dressing, and bandaging of one of the two injuries. The injury may vary from student to student, but for a given student it will not vary from attempt to attempt.

9. Given a victim (either a fellow student or instructor) simulating a wet chemical burn in the eye, sterile dressings, clean cloth or handkerchiefs, and access to water, the student will be able to correctly treat, dress, and bandage the eye.

SOFT TISSUE INJURIES

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will:

1. Distribute the student activity sheet and handouts during the class period prior to beginning this module. Assignments are:

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 214-291, 286-314, 378-390.

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 159-166.

2. This module is planned for 6 hours. The lecture will involve the use of slides, filmstrips, 16 mm film and handouts. The content of the lecture is specified in the Module Outline.

   A. Slides are from the EMERGENCY CARE SERIES, Robert J. Brady Company, Units 2 and 3.

   B. Filmstrips: EMERGENCY MEDICAL CARE SERIES, by Trainex:

      (1) The Digestive and Special Senses, Program No. 327, Track 25 to 63.

   C. Film 16 mm:

      (1) Burns and Scalds, U.S. Department of the Interior, Mining Enforcement and Safety Administration.
      (2) Open and Closed Wounds, U.S. Department of the Interior, Mining Enforcement and Safety Administration.

   D. References:

      (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons,) (1975), 2nd Edition. Pages: 119-120, 125-128, 195-196, 197-204, 207-228, 301-337.
      (2) Advanced First Aid and Emergency Care, The American National Red Cross, (1973). Pages: 24-58, 134-150, 202-222.
      (3) Basic Life Support Skill Manual, by Charles Phillips, M.D., Robert J. Brady Company, 1977. Pages: 97-112.
      (4) Burns, by Claudella A. Jones, R.N., Irving Feller, M.D., Journal of Emergency Nursing; May/June 1975. Pages: 13-20.
      (5) Blunt Trauma: The Treacherous Killer, by W. Carl Gordon, M.D. FACS and Wayne Cowan, Emergency Product News, August 1977.
      (6) Emergency Management of Traumatic Amputations, by James Heckman, M.D., Emergency Product News, April 1977.

   E. Alternative Learning Resources:

      (1) Filmstrips: BASIC SKILLS FOR THE EMT: By Emergency Training, Inc.

E. Alternative Learning Resources: (Continued)

(a) Injuries of the Head, Eye, Mouth and Face, Unit 14.
(b) Injuries and Problems of the Chest, Abdomen and Genitalia Unit 15.
(c) Environmental Injuries, Unit 18.

(2) EMERGENCY MEDICAL CARE SERIES, by Trainex

(a) Major Wounds and Multiple Injuries, Program No. 349
(b) Emergency Eye Care, Program No. PC 223
(c) Management of the Burned Patient, Program No. 1032
(d) Environmental Injuries, Program No. 350

F. Handouts: No. 5 Special Sense Organs
No. 6 Alimentary Canal
No. 7 Male and Female Genitalia
No. 8 Urinary System
No. 9 Integumentary System
For student use during anatomy portion of lecture.

3. Prepare notes and conduct the demonstration session. The demonstrations consist of:

A. Control of bleeding
B. Dress and bandage of an impaled object
C. Dress and bandage of an avulsion
D. Treat, dress, and bandage of burns
E. Dress and bandage of amputations
F. Dress and bandage of a sucking chest wound
G. Treat, dress, and bandage of an abdominal wound with exposed organs
H. Treat, dress, and bandage of a neck or face wound
I. Treat, dress, and bandage of an eye injury

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

5. After the practice session and lecture, the instructor will evaluate the student's ability to perform each of the skills. The student's skills can be evaluated separately or collectively. In addition, each student will be required to take a written examination. After completing the evaluations, the instructor will advise the student on his/her progress and suggest Alternative Learning Resources.

NOTE: The instructor is given a total of six (6) class hours to complete the lecture, demonstrations, practice sessions, and evaluation of student's progress. The lecture and demonstration time should be adjusted so as to allow three (3) hours for practice and evaluation.

SOFT TISSUE INJURIES

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and Chalkboard
Slide Projector
Screen
Film Projector 16 mm.
Filmstrip/Cassette Machine
Organic Torso or Charts

Medical

Casualty Simulation Kit
Gauze Dressings (4"x 4", 4"x 8")
Multi-Trauma dressings
Triangular bandages
Tape(1½", 3")
Gauze roller bandages
Tape scissors
Elastic roller bandages or Kling gauze
Tourniquets
Burn sheets
Paper cups
Plastic sheets
Aluminum foil

HANDOUTS:

Task Sheets
Skill development checklist
Skill and Knowledge objectives
Skill Evaluation sheets
Written examination
No. 5 Special Sense Organs
No. 6 Alimentary Canal
No. 7 Male and Female Genitalia
No. 8 Urinary System
No. 9 Integumentary System

Audiovisuals:

Slides: Emergency Care Series; (Units 4, 5 and 8)
Filmstrips: Emergency Medical Care Series, Program No. 327
Film 16 mm: Meca, Burns and Scalds; Open and Closed Wounds

SOFT TISSUE INJURIES

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material assigned prior to Module Lecture.

2. Reading Assignment:

   A. Read Knowledge and Skill Objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 285-314, 374-383. Review pages 137-138.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 120-134, 160-162.

3. Handouts:
   No. 5 Special Sense Organs
   No. 6 Alimentary Canal
   No. 7 Male and Female Genitalia
   No. 8 Urinary System
   No. 9 Integumentary System
   For use by the student during anatomy portion of Module Lecture.

4. Student Skill Development Checklist for Soft Tissue Injuries. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

5. See #5 in Basic Life Support Student Activities.

6. Alternative Learning Resources

   A. Filmstrips: EMERGENCY MEDICAL CARE SERIES, by Trainex.

      (1) Major Wounds and Multiple Injuries, Program No. 349
      (2) Emergency Eye Care, Program No. PC 223
      (3) Management of the Burned Patient, Program No. 1032
      Q (4) Environmental Injuries, Program No. 350

   B. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.

      (1) Injuries of the Head, Eye, Mouth, and Face, Unit 14.
      (2) Injuries and Problems of the Chest, Abdomen, and Genitalia, Unit 15.
      (3) Environmental Injuries, Unit 18.

SOFT TISSUE INJURIES

7. Before leaving this module, the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTOR'S INITIAL
A. Bandage Simple bleedings			
1. Extremity			
2. Trunk Body			
3. Head			
4. Face			
5. Joint			
6. Foot			
7. Head			
B. Dress and bandage			
1. Impaled object of chest			
2. Sucking chest wound			
3. Avulsed			
a. eye			
b. hand			
4. Amputation			
5. Simple puncture			
6. Electrical burn			
7. Chemical burn			
a. wet			
b. dry			
8. Protruding abdominal organ			

SOFT TISSUE INJURIES

ANATOMY SPECIAL SENSES

HANDOUT # 5

I. Terms and definitions
  A. Ophthalmology--Study of the eye and its diseases
  B. Otology--Study of the ear and its diseases
  C. Ophthalmologist--Doctor who specializes in the treatment of eye disorders
  D. Sense--General faculty by which conditions outside or inside the body are perceived
  E. Orbit--Bony cavity in which the eye is located
  F. Pupil--opening in the iris which permits the light to enter
  G. Conjunctiva--Saclike mucous membrane which helps keep the eye moist
  H. Sclera--White part of the eye
  I. Iris--Colored part of the eye
  J. Intrinsic--within the eye
  K. Extrinsic--outside a part
  L. Levator--Muscle that elevates or raises a part
  M. Cerumen--Waxlike, soft, brown secretion found in the external ear canal
  N. Malleus--Hammer-shaped bone of the middle ear
  O. Incus--Anvil-shaped bone of the middle ear
  P. Stapes--Stirrup-shaped bone of middle ear
  Q. Auditory--Pertaining to the sense of hearing
  R. Equilibrium--Normal oriented state of the body in respect to its environment
  S. Taste buds--Receptors of taste found in the tongue
  T. Olfactory--Pertaining to sense of smell
  U. Accommodation--Adjustment by the lens to make a sharp, clear image on the retina

II. Most important of senses
  A. Visual--Eye
  B. Hearing--Ear
  C. Taste--Tongue receptors
  D. Smell--Upper nasal cavity
  E. Hunger and thirst--Various internal structures
  F. Touch, pressure, heat, cold and pain--Skin
  G. Position and balance--Muscles, joints, and semicircular canals in the ear

III. Protection of the eye
  A. The eye lies in a bony cavity in the skull cushioned by a layer of fatty tissue
  B. Eyelids, eyelashes, and eyebrows protect eyes from bright light and from foreign bodies such as dust and perspiration
  C. Lacrimal apparatus helps keep eye moist

HANDOUT # 5 cont.

IV. Structures of the eye and their functions
   A. Conjunctiva--Covers the front of the eyeball; lines the eyelid
   B. Choriod--Middle vascular layer on lateral and posterior eyeball; supplies oxygen and nutrient
   C. Iris--Circular muscle; regulates amount of light entering pupil
   D. Cilary muscle--Controls shape of lens to make sharp, clear image
   E. Sclera--Outer layer of firm, connective tissue; covering of eyeball
   F. Cornea--Clear, transparent part of the sclera on the front of eyeball; lets light through
   G. Lens--Circular jellylike suspension; focuses images on retina
   H. Suspensory or ciliary ligament--Holds lens in place
   I. Anterior chamber--Space in front of lens between cornea and iris
   J. Posterior chamber--Space between iris and lens
   K. Vitreous humor--Jellylike substance filling the eyeball posterior to the lens; maintains shape of eyeball
   L. Retina--Inner layer of nerve tissue made up in part of rods and cones, special light-sensitive cells; receives visual images
   M. Optic nerve--Carries visual impulses from retina to brain

V. Accessory eye structures
   A. Lacrimal gland--Lies superior and lateral to eyeball; secretes tears which moisten and cleanse eye and destroy some bacteria
   B. Lacrimal ducts--In upper and lower eyelids at inner canthus; carry tears from eye into nasal cavity
   C. Extrinsic eye muscles--Six ribbonlike muscles which coordinate eye movements
   D. Eyelid muscles--Levators open and close eyelids
   E. Oculomotor nerve--Controls part of eye muscles
   F. Ophthalmic nerve--Carries impulses of pain, touch, and temperature from eye and surrounding parts

VI. Structures and functions of the ear
   A. Outer ear
      1. Pinna or auricle--Catches air vibration or sounds
      2. External auditory canal--Guides air vibrations to tympanum
      3. Cerumen--Lubricates and protects external canal and tympanum
      4. Tympanum--Protects middle ear; vibrates when sounds strike it; also called eardrum

   B. Middle ear
      1. Ossicles (malleus, incus and stapes)--Amplify sound waves received from tympanum; transmit waves to inner ear
      2. Oval window--Separates middle and inner ear
      3. Round window--Permits passage of sound waves from ossicles to inner ear
      4. Eustachian tube--Regulates pressure in middle ear to equal pressure outside tympanum

   C. Inner ear
      1. Cochlea--Contains the organ of corti, the organ for hearing
      2. Vestibule--Controls sense of position
      3. Semicircular canals--Control equilibrium

HANDOUT # 5 cont.

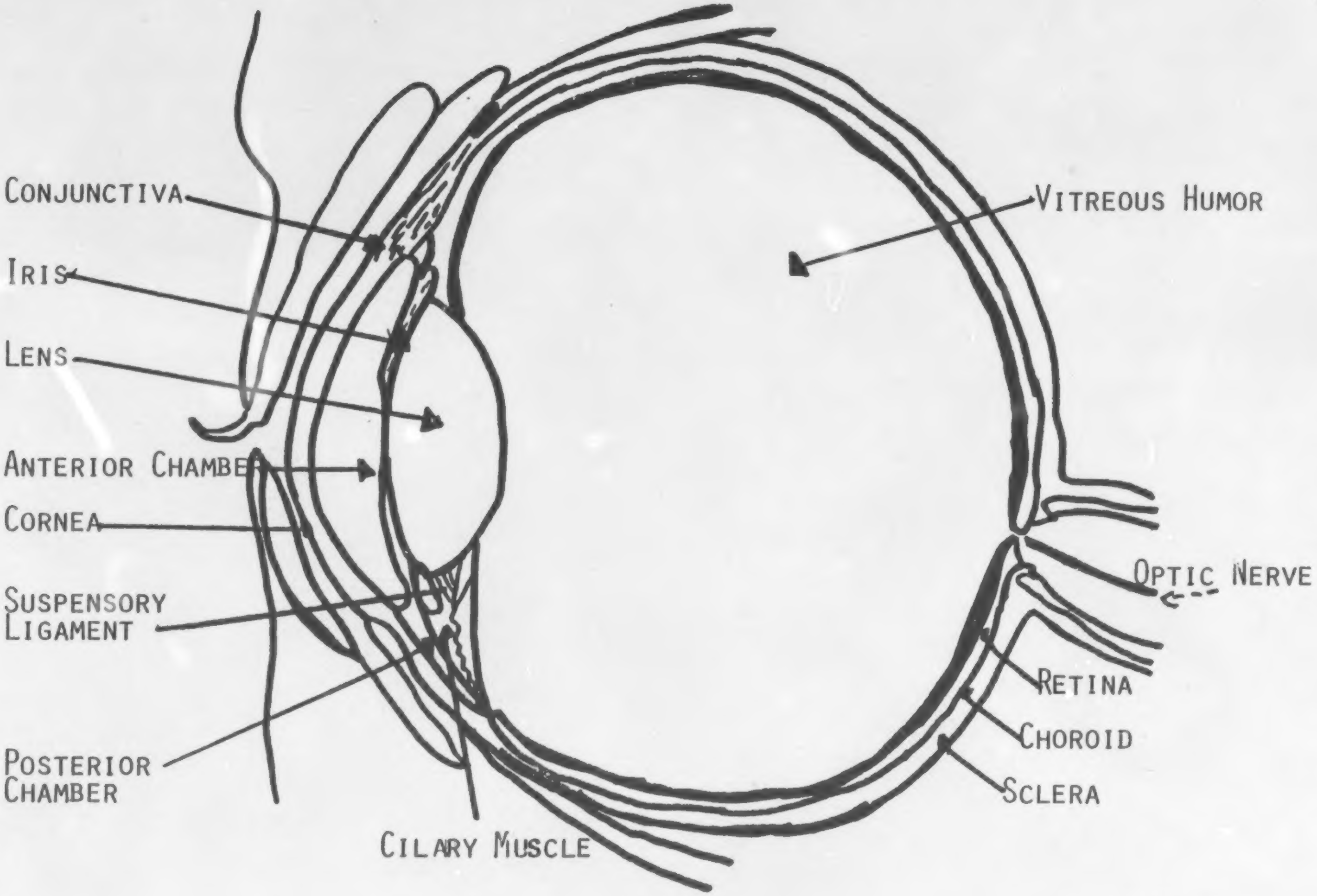
VII. Sense of taste
- A. Taste buds relay impulses to two different nerves which carry the impulses to the brain
- B. Taste buds are stimulated only if substance to be tasted is in solution
- C. Kinds of taste and location on tongue
  - 1. Sweet--Near the tip
  - 2. Sour--At the sides
  - 3. Salty--Near the tip
  - 4. Bitter--At the back
- D. Involves two nerves in relaying impulses to brain

X. Sense of smell
- A. Closely related to the sense of taste
- B. Receptors located in the olfactory epithelium in upper part of the nasal cavity
- C. Impulses of smell carried to the brain by the olfactory nerve
- D. Olfactory nerves tire quickly and become less sensitive after detecting the same odor for a period of time
- E. Involves one nerve, the olfactory

SOFT TISSUE INJURIES

HANDOUT # 5

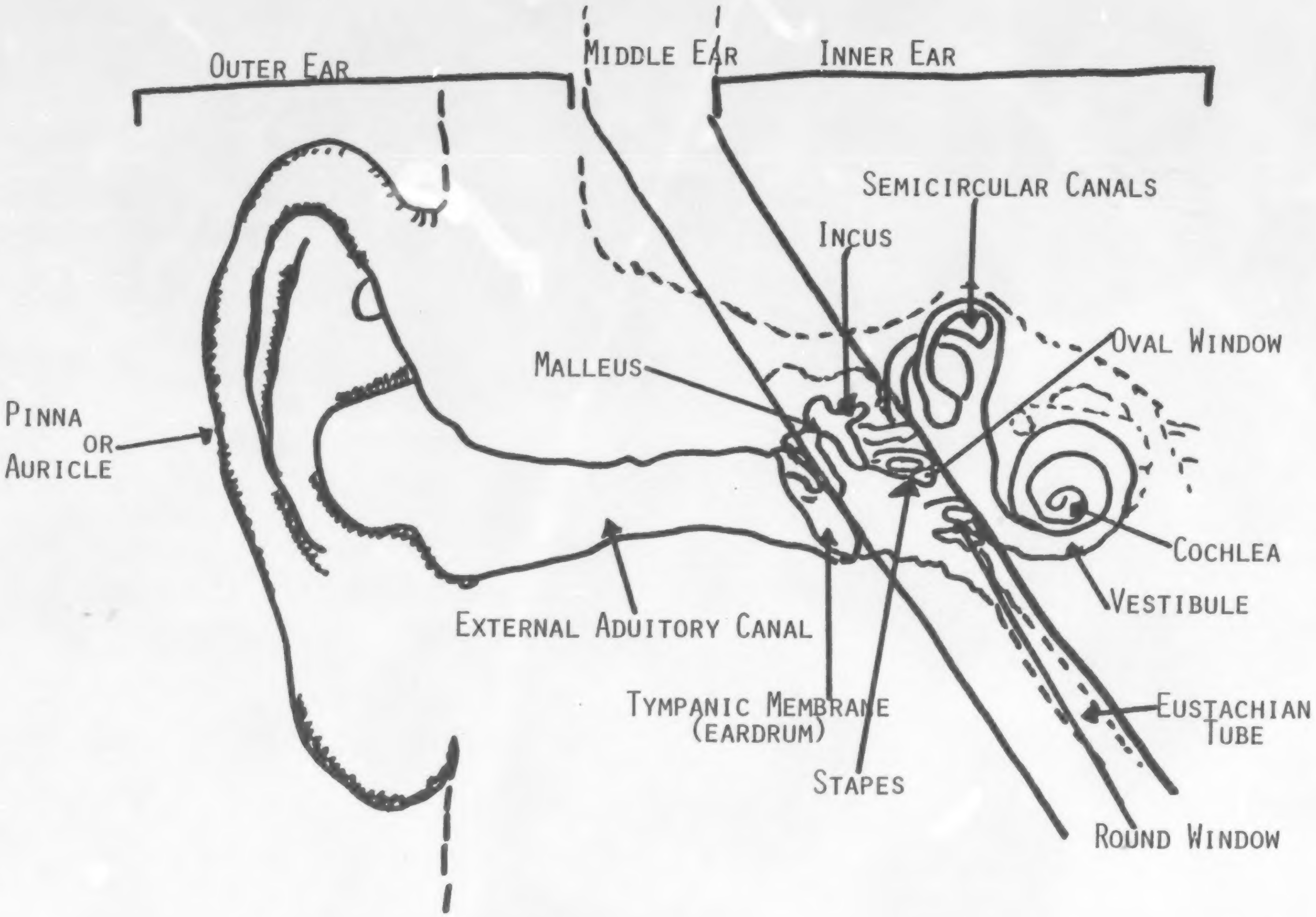
THE EYE


CONJUNCTIVA
IRIS
LENS
ANTERIOR CHAMBER
CORNEA
SUSPENSORY LIGAMENT
POSTERIOR CHAMBER
CILARY MUSCLE
VITREOUS HUMOR
OPTIC NERVE
RETINA
CHOROID
SCLERA

SOFT TISSUE INJURIES

HANDOUT # 5

THE EAR

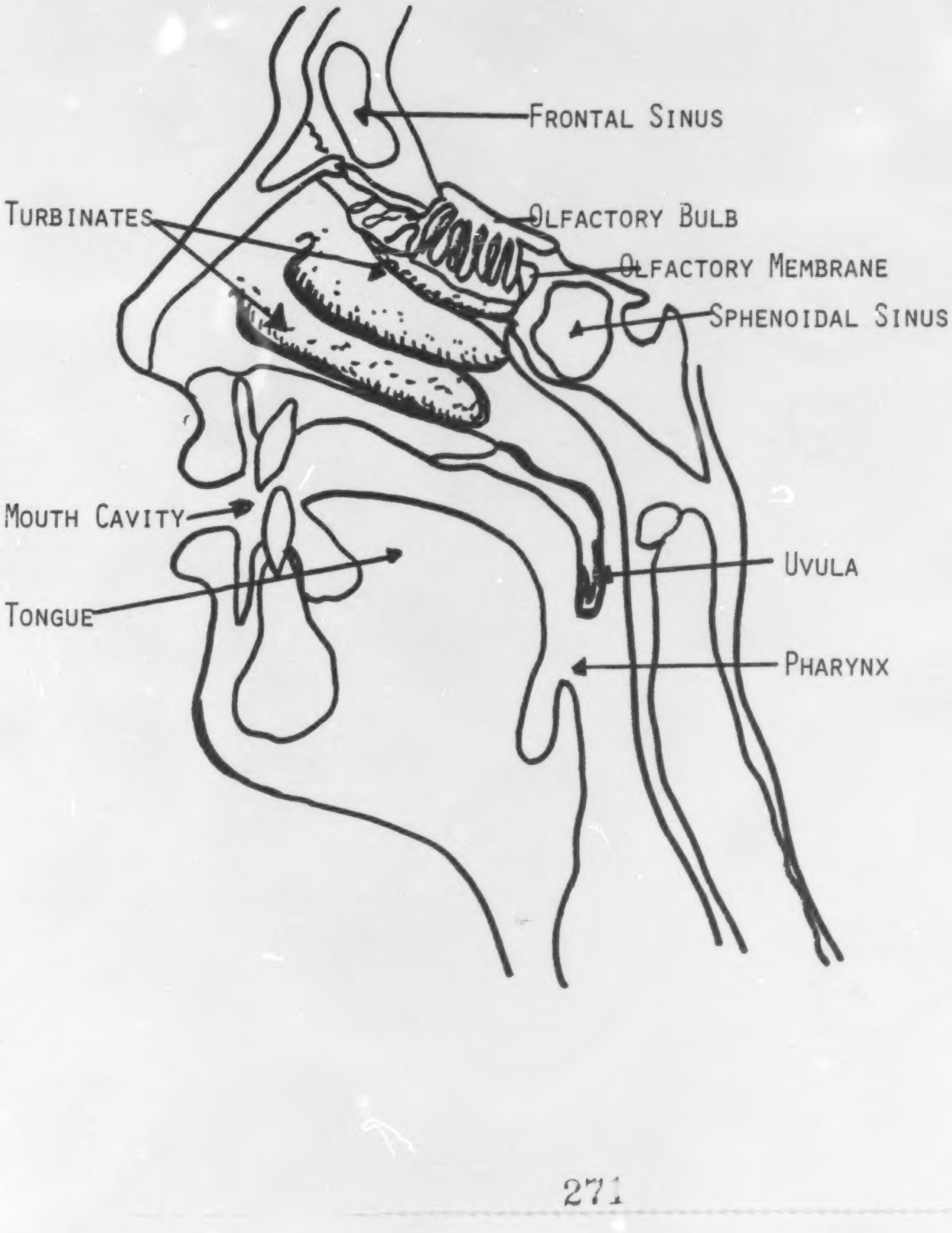

OUTER EAR
MIDDLE EAR
INNER EAR
SEMICIRCULAR CANALS
INCUS
OVAL WINDOW
MALLEUS
PINNA OR AURICLE
COCHLEA
VESTIBULE
EXTERNAL ADUITORY CANAL
TYMPANIC MEMBRANE (EARDRUM)
EUSTACHIAN TUBE
STAPES
ROUND WINDOW

HANDOUT # 5

SOFT TISSUE INJURIES

THE NOSE AND SENSE OF SMELL

HANDOUT # 5


FRONTAL SINUS
TURBINATES
OLFACTORY BULB
OLFACTORY MEMBRANE
SPHENOIDAL SINUS
MOUTH CAVITY
TONGUE
UVULA
PHARYNX

SOFT TISSUE INJURIES

THE ALIMENTARY CANAL

HANDOUT # 6

I. Terms and definitions
  A. Gastroenterology--Study of the digestive system
  B. Peristalsis--Rhythmical waves of contraction which move food along the gastrointestinal tract
  C. Mucus--Thick, sticky fluid secreted by some membranes and glands
  D. Vili--Short, vascular, threadlike projections covering the mucous membrane of the small intestine (singular--villus)
  E. Sphincter--Ringlike muscle fibers which control an outlet, permitting it to open and close

II. Digestive organs
  A. Oral Cavity
  B. Sublingual glands
  C. Submaxillary glands
  D. Parotid glands
  E. Pharynx
  F. Epiglottis
  G. Esophagus
  H. Stomach
  I. Liver
  J. Gallbladder
  K. Pancreas
  L. Small Intestine
  M. Large Intestine
    1. Cecum
    2. Colon
      a. Ascending
      b. Transverse
      c. Descending
    3. Sigmoid
    4. Rectum
    5. Anal canal
  N. Appendix

III. Alimentary canal and accessory organs
  A. Organs of the alimentary canal--Organs which are part of the tube extending from the mouth to the rectum
    1. Oral cavity
    2. Pharynx
    3. Esophagus
    4. Stomach
    5. Small intestine
    6. Large intestine
  B. Accessory organs--Organs that aid in digestion of food but do not form the digestive tract itself
    1. Teeth
    2. Tongue

HANDOUT # 6 cont.

3. Salivary glands
    a. Parotid
    b. Sublingual
    c. Submaxillary
4. Epiglottis
5. Pancreas
6. Liver
7. Gallbladder
8. Appendix

IV. Structures of the mouth
    A. Tongue
    B. Cheeks
    C. Hard palate
    D. Soft palate
    E. Teeth
    F. Pharynx
    G. Salivary glands

V. Functions of the mouth
    A. Softens, chews and mixes food with saliva (physical change)
    B. Begins digestive process(chemical change)
    C. Changes some starches to sugars
    D. Secretes approximately 1500 ml. of saliva daily

VI. Structure and functions of esophagus
    A. Tubular passageway for food from mouth to stomach
    B. Secretes mucus to aid in food movement
    C. Peristalsis begins in esophagus
    D. Epiglottis prevents food from entering the trachea

VII. Parts of the stomach
    A. Cardiac sphincter
    B. Fundus
    C. Body
    D. Greater curvature
    E. Lesser curvature
    F. Pylorus
    G. Pyloric sphincter

VIII. Functions of the stomach
    A. Prepares food for digestion by changing it from a solid to a semi-fluid material (chyme) by peristalsis
    B. Serves as a reservoir for food for the three or four hours needed for proper mixing
    C. Secretes approximately 2000 ml. of gastric juice per day
    D. Begins digestion of proteins

HANDOUT # 6 cont.

IX. Structure of the small intestine
    A. Small tube about one inch in diameter and twenty feet long
    B. Divided into three parts
        1. Duodenum
        2. Jejunum
        3. Ileum
    C. Lined with permanent folds covered with villi

X. Functions of the small intestine
    A. Bile from the liver and pancreatic juice are emptied into the duodenum
    B. Intestinal juices are secreted in the small intestine
    C. Greater part of digestion and absorption of food occurs

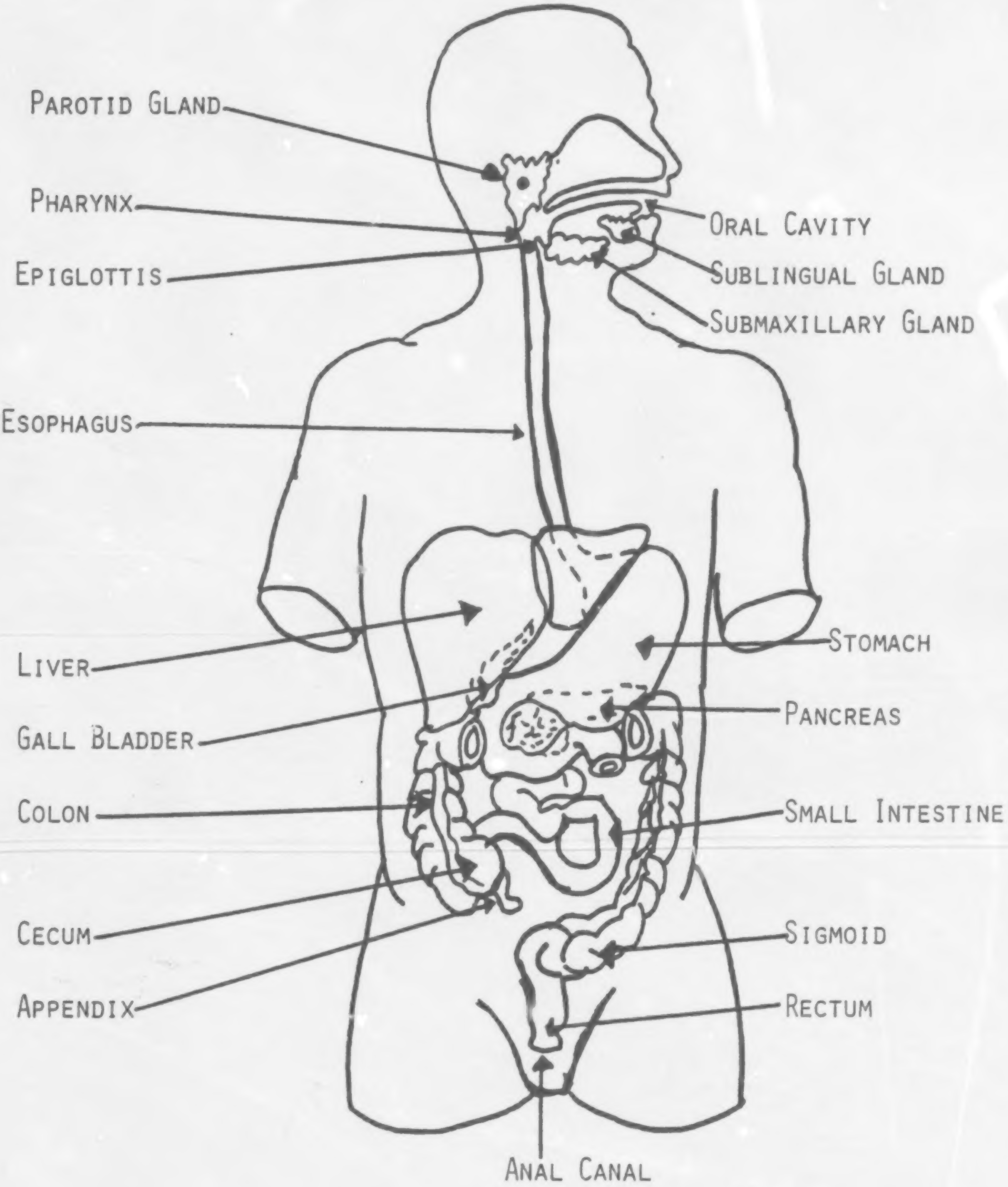
XI. Parts of the large intestine
    A. Appendix
    B. Cecum
    C. Ascending colon
    D. Transverse colon
    E. Descending colon
    F. Sigmoid
    G. Rectum
    H. Anal canal

XII. Functions of the large intestine
    A. Reabsorbs water, mineral salts and vitamins
    B. Provides a site for bacteria which produce Vitamin K and other bacteria that aid in absorption
    C. Secretes mucus to aid in the movement of feces

SOFT TISSUE INJURIES

THE DIGESTIVE ORGANS

HANDOUT # 6


PAROTID GLAND
PHARYNX
EPIGLOTTIS
ORAL CAVITY
SUBLINGUAL GLAND
SUBMAXILLARY GLAND
ESOPHAGUS
LIVER
STOMACH
GALL BLADDER
PANCREAS
COLON
SMALL INTESTINE
CECUM
SIGMOID
APPENDIX
RECTUM
ANAL CANAL

SOFT TISSUE INJURIES

MALE AND FEMALE GENITALIA

HANDOUT # 7

I. Terms and definitions

A. Gynecology--Study of the diseases of the female reproductive system
B. Semen--Thick, whitish secretion of the reproductive glands in the male
C. Scrotum--External pouch which contains the testes
D. Sperm--Male reproductive cell
E. Ovum--Female reproductive cell
F. Pubic--Pertaining to the os pubis, the anterior bone of the pelvis
G. Vulva--External female genitalia
H. Perineum--Area between external genitalia and the anus
I. Spermatic Cord--Cord suspending the testes composed of veins, arteries, lymphatics, nerves and vas deferens
J. Glans penis--Bulbous end of the penis
K. Prepuce--Fold of skin over the glans penis
L. Circumcision--Surgical removal of the prepuce

II. Male reproductive system and adjacent structures

A. Testis or testicle (2)
B. Scrotum
C. Epididymis (2)
D. Vas deferen
E. Ejaculatory duct (2)
F. Urethra
G. Prostate gland
H. Seminal vesicle (2)
I. Bulbourethral glands
J. Penis
K. Glans penis
L. Prepuce
M. Urinary bladder
O. Pubic bone
P. Kidney
Q. Ureter

III. Location and functions of male external organs

	ORGANS	LOCATION	FUNCTION
A.	Scrotum	Posterior to penis	Protects testes Regulates and maintains favorable temperature for sperm production
B.	Testes	In scrotum	Produce sperm Produce testosterone

HANDOUT # 7 cont.

	ORGAN	LOCATION	FUNCTION
C.	Epididymis	On top and behind each testis	Collects sperm Stores sperm while maturing Conducts sperm to outside
D.	Vas Deferens	From testis through lower abdomen to urethra	Transports sperm from the testes to the urethra
E.	Penis and Urethra	Suspended from front and sides of pubic arch	Carries semen into vagina during copulation Carries urine from bladder

IV. Location and functions of male internal organs

	ORGANS	LOCATION	FUNCTION
A.	Seminal Vesicles	Directly behind the urinary bladder	Contribute essential components to semen
B.	Prostate gland	Below urinary bladder, surrounding the first part of the urethra	Secretes alkaline fluids which enhance sperm mobility. Contracts smooth muscles to aid ejaculation
C.	Bulbourethral glands or Cowper's glands	On each side of urethra	Secrete alkaline viscid fluid which removes urine residue Secretes mucus for lubrication
D.	Vas deferens	From testes through lower abdomen to urethra	Transports sperm from testes to urethra

V. Female reproductive system and adjacent structures

A. External organs
   1. Mons pubis
   2. Clitoris
   3. Meatus of urethra
   4. Labia majora
   5. Labia minora
   6. Vaginal orifice
   7. Hymen
   8. Vestibule
   9. Perineum
   10. Anus

HANDOUT # 7 cont.

B. Internal organs
   1. Uterus
   2. Fallopian tube (2)
   3. Ovary (2)
   4. Pubic bone
   5. Cervix
   6. Endometrium
   7. Vagina
   8. Urinary bladder
   9. Urethra
   10. Meatus of urethra
   11. Vaginal orifice
   12. Rectum
   13. Labia minora
   14. Labia majora

C. Breast
   1. Nipple
   2. Areola
   3. Lactiferous ducts
   4. Lobe of gland tissue
   5. Adipose tissue
   6. Pectoralis major
   7. Ribs

VI. Location and function of female external organs and adjacent structures

	ORGAN	LOCATION	FUNCTION
A.	Mons pubis	Skin-covered pad of fat over the symphysis pubis	Protection of pubic bone
B.	Labia majora	From mons pubis downward toward perineum	Surround labia minora
C.	Labia minora	Two thinner folds inside the labia majora	Enclose the vestibule
D.	Clitoris	At the anterior junction of labia majora and labia minora	Sexual excitation
E.	Urethral Orifice	Between clitoris and vaginal orifice	Regulates flow of urine
F.	Vaginal orifice	Between labia minora	Opening to vagina

HANDOUT # 7 cont.

	ORGAN	LOCATION	FUNCTION
G.	Bartholin's glans and Skene's glands	Near vaginal orifice	Secretion of lubricating fluids
H.	Perineum	Between vaginal orifice and anus	Pelvic floor
I.	Anus	Posterior to perineum	Outlet of alimentary tract

VII. Location and function of female internal organs

	ORGANS	LOCATION	FUNCTION
A.	Vagina	Canal from uterus to external vaginal orifice	Passageway for infant during birth. Reception of male penis during copulation.
B.	Uterus	Hollow muscular organ in the center of pelvic cavity posterior to bladder	Reception, protection, and nourishment of fertilized ovum until viable infant Menstruation
C.	Fallopian tubes (2)	One attached to each side of the uterus	Movement of ova from ovaries to uterus Fertilization takes place
D.	Ovaries (2)	In pelvic part of the abdomen	Production of hormones and an ovum, usually once per month from alternate ovary

VIII. Parts and structures of the uterus

A. Pear-shaped organ divided into three parts

1. Body--Broader, upper portion
2. Cervix--Lower, necklike portion
3. Fundus--Small rounded part above the orifices of the fallopian

B. Lined with specialized epithelium called endometrium

C. Suspended and held in place by the broad ligaments

HANDOUT # 7 cont.

IX. Mammary glands and lactation (breast 2)

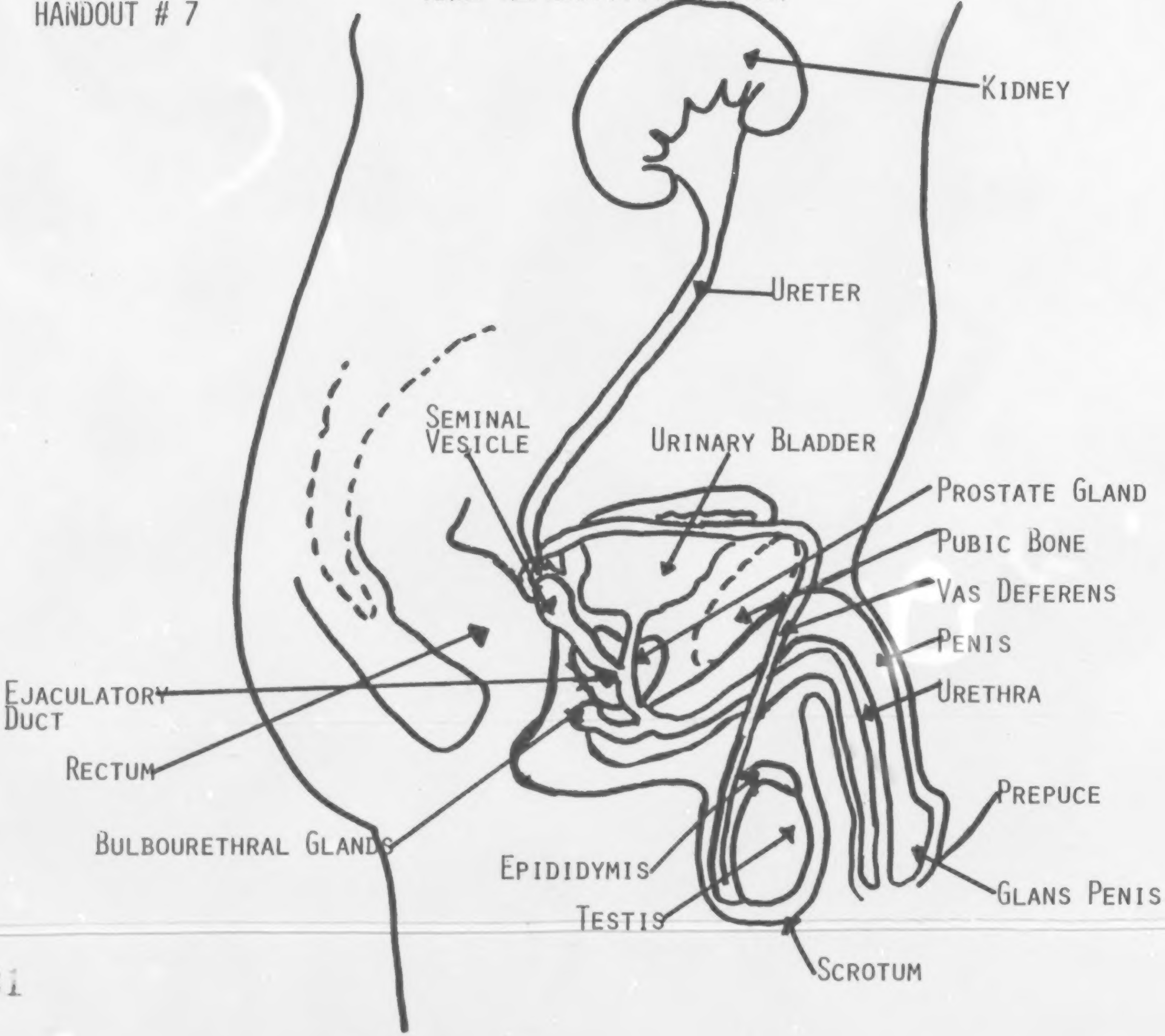
- A. Accessory glands of the female reproductive system
- B. Function--Lactation
- C. Modified sweat glands composed of a number of lobes subdivided into lobules
- D. Secretions from the lobules conveyed through the lactiferous ducts to the nipple
- E. Begin development at puberty but not functional until the end of a pregnancy
- F. Nipple surrounded by the areola, which changes from pink to brown during pregnancy

SOFT TISSUE INJURIES

MALE REPRODUCTIVE SYSTEM

HANDOUT # 7

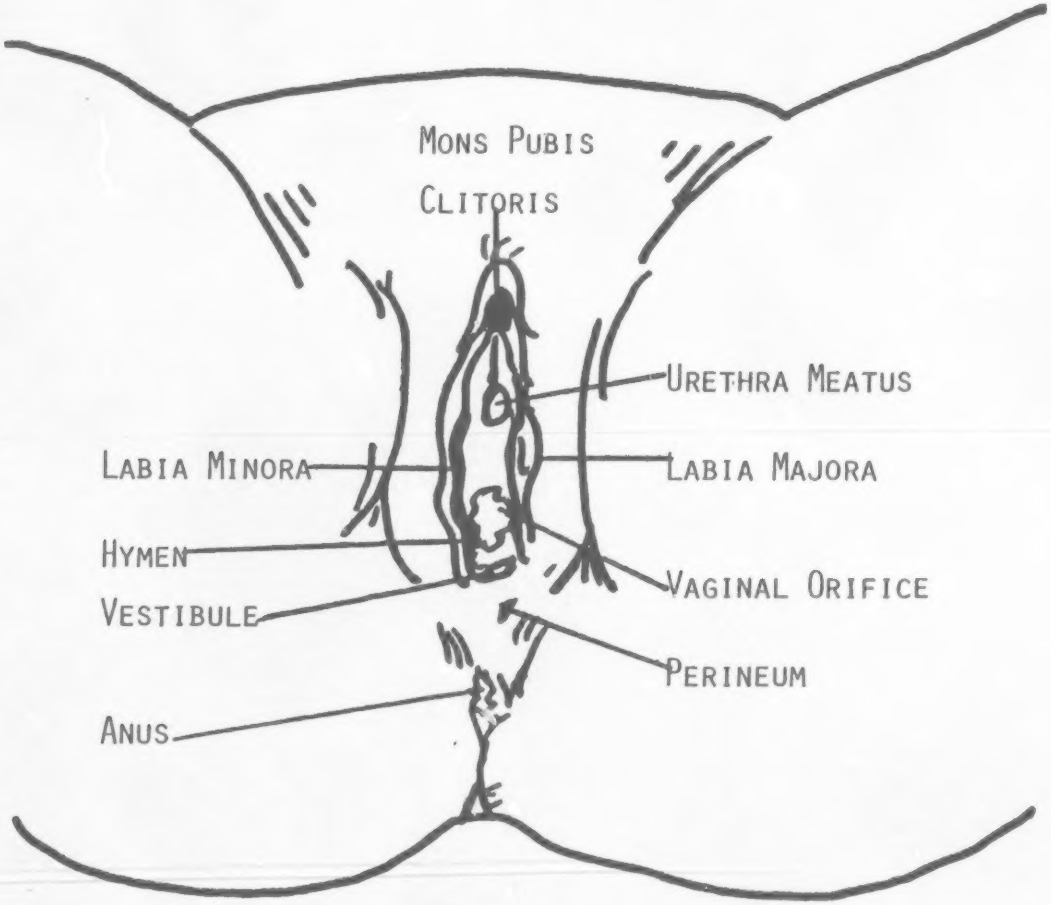
HANDOUT # 7


KIDNEY
URETER
SEMINAL VESICLE
URINARY BLADDER
PROSTATE GLAND
PUBIC BONE
VAS DEFERENS
PENIS
URETHRA
EJACULATORY DUCT
RECTUM
PREPUCE
BULBOURETHRAL GLANDS
EPIDIDYMIS
GLANS PENIS
TESTIS
SCROTUM

SOFT TISSUE INJURIES

FEMALE EXTERNAL ORGANS

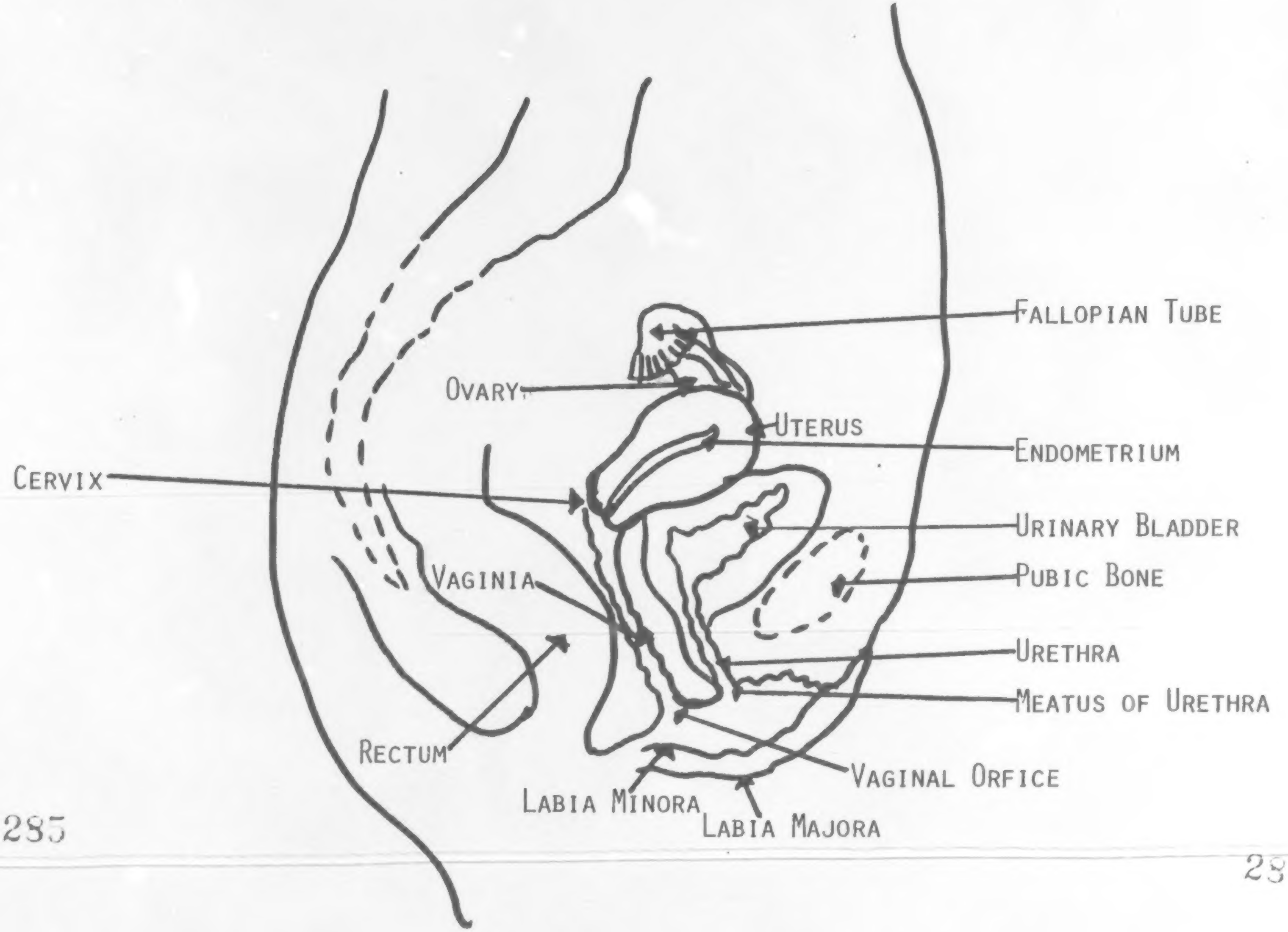
HANDOUT # 7


MONS PUBIS
CLITORIS
URETHRA MEATUS
LABIA MINORA
LABIA MAJORA
HYMEN
VAGINAL ORIFICE
VESTIBULE
PERINEUM
ANUS

SOFT TISSUE INJURIES

HANDOUT # 7

FEMALE REPRODUCTIVE SYSTEM


FALLOPIAN TUBE
OVARY
UTERUS
ENDOMETRIUM
CERVIX
URINARY BLADDER
PUBIC BONE
VAGINIA
URETHRA
MEATUS OF URETHRA
RECTUM
VAGINAL ORFICE
LABIA MINORA
LABIA MAJORA

SOFT TISSUE INJURIES

THE URINARY SYSTEM

HANDOUT # 8

I. Terms and definitions

- A. Nephrology--Study of the kidney
- B. Excretion--Removing useless substances (waste products of cell metabolism) from the blood and lymph
- C. Secretion--Process of giving off a specific product as a result of the activity
- D. Elimination--Discharge of indigestible materials and waste products of metabolism from the body
- E. Hepatic--Pertaining to the liver
- F. Adrenal--Near the kidney
- G. Renal--Pertaining to the kidney
- H. Ureter--Tube which carries urine from the kidney to the bladder
- I. Urethra--Tube for carrying urine from the bladder to the outside of the body
- J. Urinary meatus--External opening of the urethra
- K. Vascular--Pertaining to or composed of blood vessel
- L. Hilum--Depression or recess at exit or entrance of a duct, nerve or vessel into a gland
- M. Urology--Study of the urinary system

II. Excretory systems and their waste products

- A. The skin or integumentary system--Perspiration composed of water, salts and small quantities of nitrogenous wastes
- B. The respiratory system--Vapor composed of water, carbon dioxide and other gases
- C. The digestive system--Feces or fecal material composed of water, bile, some salts, undigested foods, mucus and bacteria
- D. The urinary system--Urine composed of water, salts and waste products containing nitrogen

III. Structures of the urinary system with blood vessel supply

- A. Inferior vena cava
- B. Abdominal aorta
- C. Adrenal gland
- D. Kidney
- E. Renal artery
- F. Renal vein
- G. Ureter
- H. Urinary bladder
- I. Prostate gland (This gland found only in the male)
- J. Urethra

HANDOUT # 8

IV. Location and structure of the kidneys

- A. Lie against the muscles of the back up under the dome of the diaphragm, protected somewhat by the ribs and their cartilages, and behind the peritoneum (retroperitoneal)
- B. Reddish-brown, bean-shaped vascular organs embedded in fatty tissue surrounded by a fibrous tissue called renal fascia
- C. On the medial surface is the hilum where the blood vessels and nerves enter the kidney and the ureter leaves the kidney

V. Principal parts of the kidney

- A. Cortex--The smooth, solid portion of the kidney where the greater part of the nephron is located
- B. Medulla--The inner portion of the kidney where the nephron tubes come together in the collecting tubules
- C. Renal basin or pelvis--The area where the upper ureter expands to form a basin which receives the urine from the collecting tubules

VI. Main functions of the kidneys

- A. Excretion of waste products
- B. Assistance in maintaining the water balance of the body
- C. Assistance in regulating the acid-base balance of the body

VII. Structure and function of the ureters

- A. Narrow tubes about 0.5 cm in diameter, 25 to 30 cm in length, attached to the kidney at the renal pervis and emptying into the urinary bladder
- B. Urine is moved along from kidneys to bladder by rhythmic contractions of the muscle wall similar to peristalsis in the digestive system

VIII. Structure, location and function of the bladder

- A. Location--When empty, the bladder lies below the peritoneum and behind the pubic joint; when full, it may extend upward into the abdominal cavity
- B. Structure
  1. Composed of many layers--An inner mucous membrane lining, muscle layers, connective tissue, and partially covered with peritoneum
  2. When empty, the bladder wall is thick and folded; as it fills, the folds stretch out and the wall becomes thinner
  3. Capacity of normal adult bladder is 300 to 450 ml of urine
  4. Bladderwall has three openings, one from each ureter and one into the urethra
- C. Function--Receives and holds urine

HANDOUT # 8 cont.

IX. Structure and function of the urethra

- A. Male
    - 1. Part of both the reproductive and urinary systems
    - 2. Approximately 20 cm long in the adult
    - 3. Passes through the prostate gland, where two ducts from the male reproductive glands join it, and then through the penis to the outside
- B. Female
    - 1. Thin-walled, relatively short tube about 4 cm long
    - 2. Embedded in the anterior muscle wall of the vagina
- C. Function--Carries urine to the outside of the body

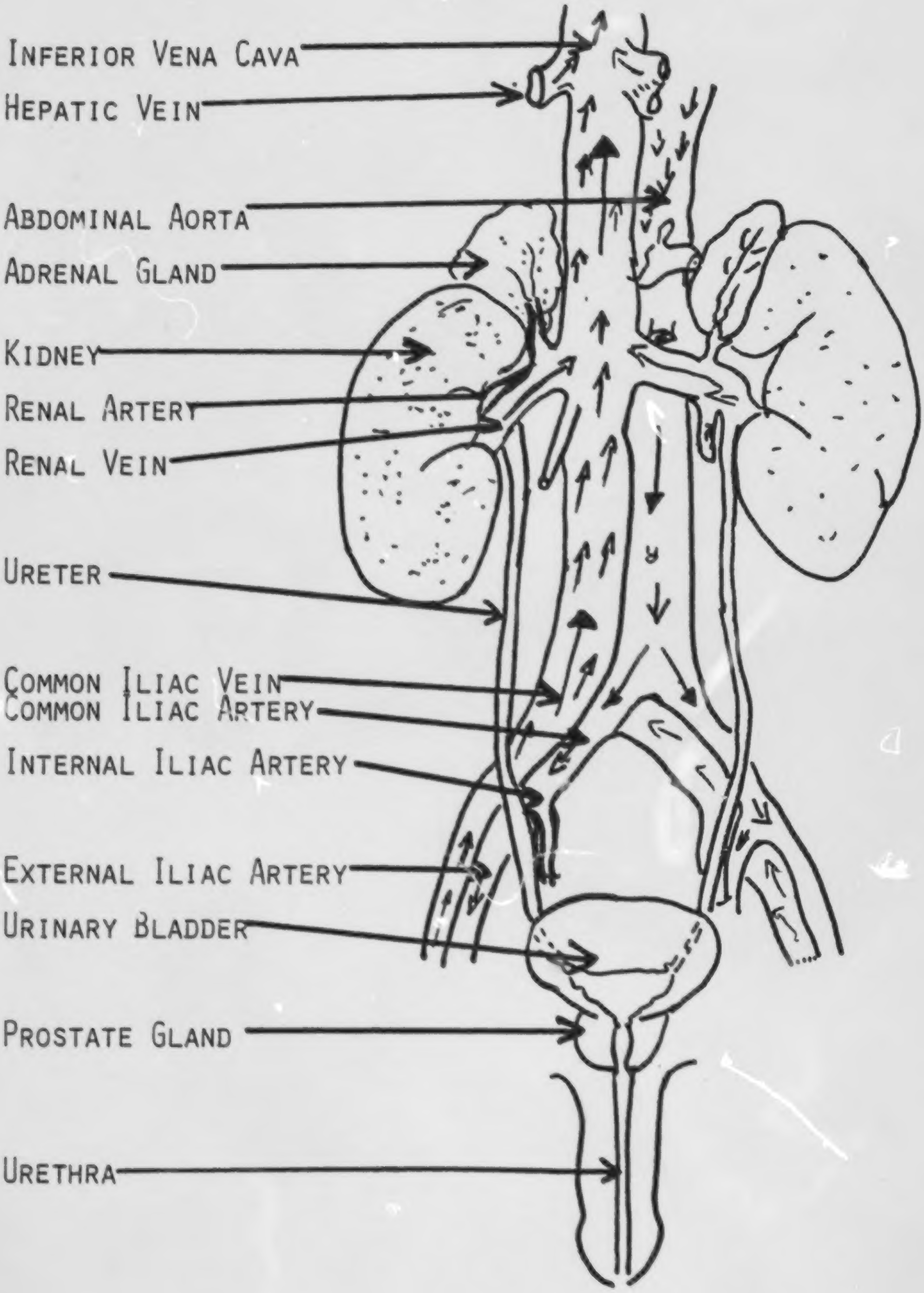
X. Terms that mean "expelling urine"

- A. Void/voiding/voided
- B. Urination
- C. Micturition

SOFT TISSUE INJURIES

URINARY SYSTEM WITH BLOOD VESSELS

HANDOUT # 8


INFERIOR VENA CAVA
HEPATIC VEIN
ABDOMINAL AORTA
ADRENAL GLAND
KIDNEY
RENAL ARTERY
RENAL VEIN
URETER
COMMON ILIAC VEIN
COMMON ILIAC ARTERY
INTERNAL ILIAC ARTERY
EXTERNAL ILIAC ARTERY
URINARY BLADDER
PROSTATE GLAND
URETHRA

SOFT TISSUE INJURIES

THE INTEGUMENTARY SYSTEM

HANDOUT # 9

I. Terms and definitions

- A. Dermatology--Study of the skin
- B. Stratified--Arranged in layers
- C. Squamous--Covered with or consisting of scales
- D. Epithelium--Outer layer of cells of the skin
- E. Regeneration--Repair, regrowth or restoration of a part
- F. Integument--Skin or covering including sweat and oil glands
- G. Appendage--Anything attached to a larger or major part
- H. Cutaneous--Pertaining to the skin

II. Layers of the skin

- A. Epidermis
  - 1. Structure--Covering for the body; there are about 3,000 square inches of surface on the average adult
  - 2. Composition
    - a. Stratified squamous epithelial cells
    - b. Thickest on palms and soles
  - 3. Functions of inner layer
    - a. Forms new cells; skin can be regenerated only as long as the inner layer remains intact
    - b. Contains pigment or melanin
- B. Dermis
  - 1. Lies directly below the epidermis; the dermis is referred to as the true skin
  - 2. Structure--Connective tissue framework
  - 3. Contains blood vessels, nerves, lymph vessels, hair follicles and sweat glands
- C. Subcutaneous or superficial fascia
  - 1. Composed of elastic and fibrous tissues and deposits of fat
  - 2. Attaches the dermis to the underlying structures

III. Appendages of the skin

- A. Hair--Hair is modified dead epidermal tissues
- B. Nails--Nails are horny cutaneous plates
- C. Sebaceous glands--Function is to secrete oil
- D. Sudoriferous or sweat glands--Function is to secrete body salts, waste products and water
- E. Ceruminous glands in ears--Function is to secrete wax

IV. Parts of the skin

- A. Epidermis
- B. Dermis (corium)
- C. Subcutaneous tissue (facia)

HANDOUT # 9 cont.

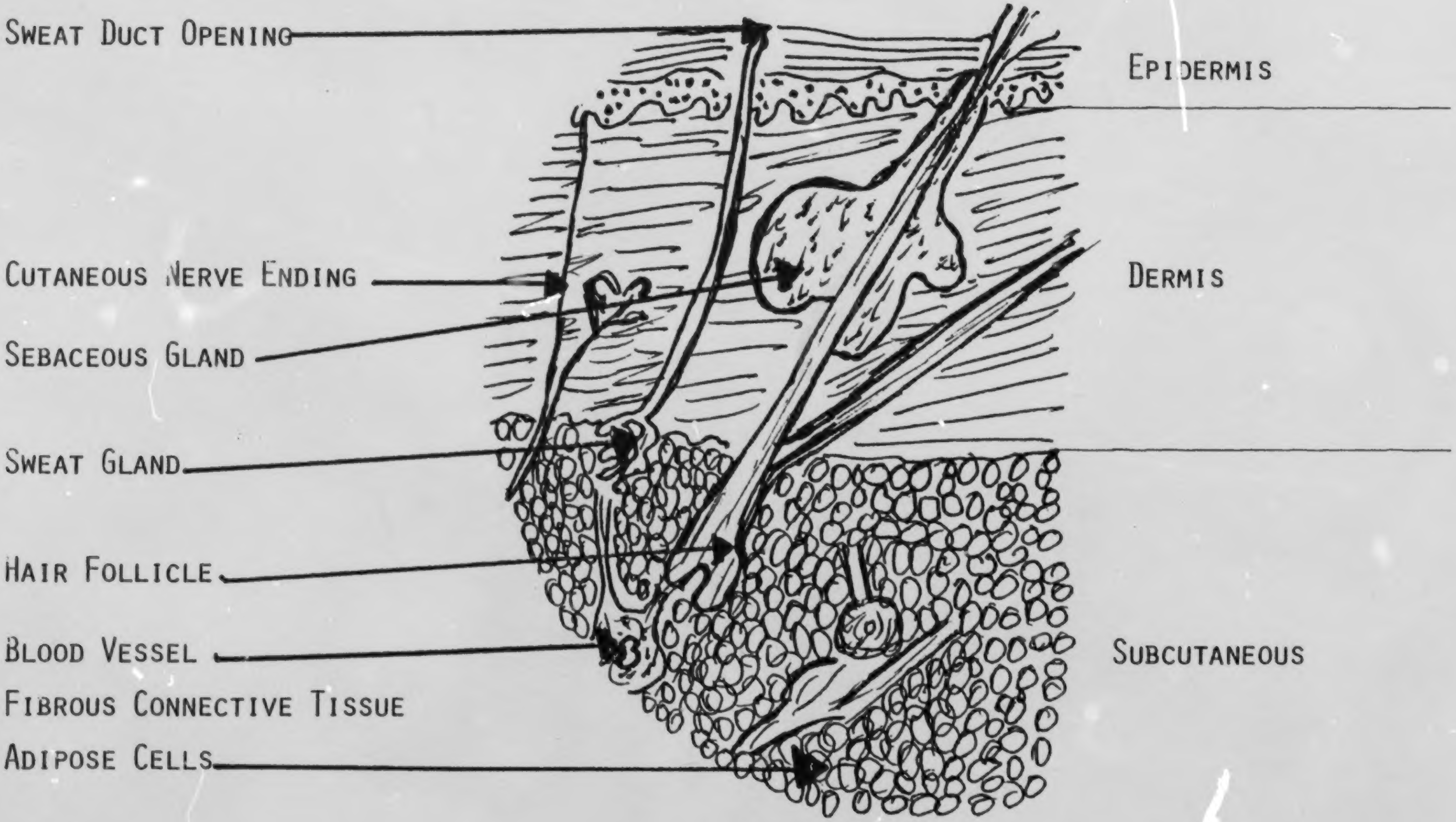
- D. Sudoriferous gland (sweat)
- E. Sebaceous gland (oil)
- F. Hair follicle
- G. Cutaneous nerve ending
- H. Pore (sweat duct opening)
- I. Growing layer
- J. Blood vessel
- K. Fibrous connective tissue
- L. Adipose cells (fat)

V. Functions of the integument

- A. Sensation
  - 1. Basic sensations
    - a. Pain
    - b. Temperature
    - C. Touch
    - D. Pressure
  - 2. Permit body to adjust to environmental changes
- B. Protection
  - 1. Forms an elastic covering for protection against the external environment
  - 2. Prevents excessive loss of fluids and electroytes
  - 3. Prevents invasion of microorganisms
  - 4. Repels water
- C. Regulation of body temperature
  - 1. Evaporation of perspiration cools the skin
  - 2. Adjustment of size of blood vessels increases or decreases heat loss
  - 3. Fatty tissue acts as insulation to prevent heat loss
- D. Excretion of water, salt and waste products on a limited basis
- E. Formation of Vitamin D when exposed to sun or ultraviolet light
- F. Secretion of oil to maintain elasticity and water-resistance

BASIC LIFE SUPPORT AND PRIMARY SURVEY

THE SKIN


SWEAT DUCT OPENING
EPIDERMIS
CUTANEOUS NERVE ENDING
DERMIS
SEBACEOUS GLAND
SWEAT GLAND
HAIR FOLLICLE
BLOOD VESSEL
SUBCUTANEOUS
FIBROUS CONNECTIVE TISSUE
ADIPOSE CELLS

SOFT TISSUE INJURIES

LECTURE TOPICS	REFERENCES
I. The Circulatory System	
A. Blood Supply	Review
B. Mechanics of circulation	
C. Pulse rate	
D. Blood color	
E. Major arteries	
II. External Hemorrhage (Review)	Task 1
A. Types - arterial, venous, capillary, contusion	
B. Methods of control - direct pressure, elevation, pressure tourniquet	Elements 2-9
DEMONSTRATION #1	
III. Internal Hemorrhage	Task 1
A. Mechanisms of injury	
B. Signs and symptoms	
C. Causes of internal injury	
D. Treatment	LOOP 10
IV. Shock	
A. Effect on body	
B. Types and cause	
C. Signs and symptoms	
D. Emergency care	Task 4 Module III
V. Soft Tissue Injuries	
A. Classification	

SOFT TISSUE INJURIES

LECTURE TOPICS	REFERENCES
1. Closed (internal bleeding)	
a. contusion	
2. Open	
a. abrasion	
b. laceration	
c. incision	
d. puncture	
e. avulsion	
f. amputation	
g. impaled object	
B. Treatment	
1. Laceration, abrasion, incision, puncture	
a. definition and characteristics	
b. treatment (general bandaging)	
DEMONSTRATION #2	
2. Avulsions	Task 1
a. definitions and characteristics	
b. treatment	LOOP 2
DEMONSTRATION #3	
3. Amputation	
a. definition and characteristics	
b. treatment	LOOP 6
DEMONSTRATION #4	
4. Impaled Object	
a. definition and characteristics	
b. treatment	LOOP 1

SOFT TISSUE INJURIES

LECTURE TOPICS	REFERENCES
DEMONSTRATION #5	
C. Anatomy and Special Problems of the Special Sense Organs	Handout #5
1. Terms	
2. Eyes	
a. protection	
b. structures	
c. accessory eye structures	
3. Ears	
a. structures	
(1) outer ear	
(2) middle ear	
(3) inner ear	
b. functions	
4. Tongue	
5. Nose	
6. Head, scalp, and face injuries	Handout #5
a. causes	
b. related breathing problems	
7. Neck	LOOP 9
a. causes	
b. related breathing problems	
c. check for spinal trauma	
d. treatment	LOOP 9
e. severed jugular as special problem	
8. Eyes	
a. signs and symptoms of injury	
b. treatment	LOOP 7
(1) non-impaled foreign object	
(2) impaled object	
(3) avulsion	
(4) lacerated globe	

SOFT TISSUE INJURIES

LECTURE TOPICS	REFERENCES
(5) burns-chemical, heat, light	
(6) unconscious patient	
Show Film and Critique Film, "Open and Closed Wounds"	
DEMONSTRATION #6, #7	
9. Chest	
a. anatomy - lungs, ribs, diaphragm, pleura, pleural space	Review
b. mechanics of breathing	
c. types - open, closed	
d. signs and symptoms of injury	
e. treatment	LOOP 8
(1) rib fractures	
(2) flail chest	
(3) traumatic asphyxia	
(a) definition	
(b) treatment	
(4) pneumothorax	
(a) definition	
(b) treatment	
(5) tension pneumothorax	
(a) definition	
(b) treatment	
(6) subcutaneous emphysema	
(a) definition	
(b) treatment	
DEMONSTRATION #8	
10. Abdomen and the Alimentary Canal	Handout #6

SOFT TISSUE INJURIES

LECTURE TOPICS	REFERENCES
a. anatomy	
(1) terms	
(2) protective structures - pelvis, spine, muscles	
(3) digestive organs	
(a) alimentary canal	
(b) accessory organs	
(c) solid organs	
(d) hollow organs	
b. signs and symptoms of injury	
c. general treatment	LOOP 5
d. evisceration as a special problem	LOOP 5
DEMONSTRATION #9	
11. Genitalia and Urinary System	
a. anatomy	
(1) male	Handout #7
(2) female	Handout #8
b. definition	
c. injury type	
d. treatment	
D. Burns	
1. Anatomy of Integumentary System, Function and Purpose	Handout #9
2. Types of Burns	LOOP 3
a. thermal	
b. chemical	
c. electrical	
3. Degree of Burns	
a. 1st, 2nd, 3rd	
(1) definition	
(2) tissue involved	

SOFT TISSUE INJURIES

LECTURE TOPICS	REFERENCES
4. Severity of burns	
a. "rule of nines"	
5. Treatment	
a. thermal burns	
b. chemical burns	
c. electrical burns	
Show Film and Critique Film, "Burns and Scalds"	
DEMONSTRATION #10	
E. Frostbite	LOOP 4
1. Definition	
2. Signs and symptoms	
3. Treatment	

SOFT TISSUE INJURIES

DEMONSTRATION OUTLINES

INTRODUCTION

All of these demonstrations except demonstration #2 relate to the Skill Objectives. Demonstration #2 involves only the general principles of dressing and bandaging. This demonstration can be looked at as an enabling skill, a skill the students must have in order to do the remaining skills. The student will not be evaluated on this skill, but it should be demonstrated to them.

DEMONSTRATION # 1: CONTROL OF BLEEDING

Using either an adult manikin or a student, demonstrate the following skills. If you use a student as a victim, use make-up to simulate the bleeding.

1. Review steps of Primary Survey.
2. Review steps of Secondary Survey (assume trauma-related problem) (assume simulated injury: lacerated radial arery).
3. Demonstrate 4 techniques of hemorrhage control:
    - A. Direct pressure
    - B. Elevation (extremities only)
    - C. Pressure point - demonstrate how to apply pressure at each site and amount of pressure required
    - D. Application of tourniquet - include
        - (1) commercial tourniquet
        - (2) make-shift tourniquet
        - (3) attaching notation to patient
        - (4) used only as last resort
4. Review shock.

DEMONSTRATION # 2: GENERAL PRINCIPLES OF DRESSING AND BANDAGING

Using an adult manikin or a student, demonstrate the dressing and bandaging of the following areas. But first:

1. Explain difference between:
    - A. Dressing
    - B. Bandage

SOFT TISSUE INJURIES

DEMONSTRATION # 2 (CONTINUED)

2. Review general principles of bandaging:

   A. Not too tight
   B. Not too loose (allow for stretching)
   C. Leave fingers and toes exposed, so that color changes can be noted
   D. Need not be "pretty", but should do the job
   E. Secure the bandage when starting and when finishing

Demonstrate the dressing and bandaging of simple injury to:

1. Forearm

2. Hands and fingers

3. Feet and toes

4. Joints (knee or elbow)

5. Head (see demonstration # 7):

   A. Scalp
   B. Eyes

6. Legs

7. Chest

When demonstrating these, indicate alternate materials that can be used. Also, apply bandage too tight when bandaging a finger to note the changes in color. The purpose of this demonstration is only to show how the dressing and bandages should not be applied.

DEMONSTRATION # 3: DRESSING AND BANDAGING AN AVULSION

Demonstrate the following procedures on a manikin or a student. If a student is used as a victim, use make-up to simulate the injury.

1. Review steps of Primary Survey

2. Do Secondary Survey and review steps of Secondary Survey.

3. If other than eye, demonstrate control of bleeding (using usual techniques). Emphasize:

DEMONSTRATION # 3 (CONTINUED)

- A. Immobilization of torn tissue (to minimize further injury)
- B. If tissue is completely torn away;
  - (1) preserve avulsed part in sterile dressing
  - (2) transport with patient to hospital
    - (a) may be possible to restore part
    - (b) use for grating

4. Demonstrate treatment of avulsed eye. Emphasize:
   - A. Immobilization and protection of injured eye.
   - B. Sympathetic eye movement.
5. If patient is in traumatic state, review treatment for shock (review these procedures).

DEMONSTRATION # 4: DRESSING AND BANDAGING OF AMPUTATIONS

Demonstrate the following procedures on a fellow student, simulating the amputation of a hand at the wrist.

1. Review steps of Primary Survey.
2. Review steps of Secondary Survey.
3. Review control of bleeding:
   - A. Direct pressure
   - B. Pressure Points
   - C. Tourniquet
   - D. May want to demonstrate these three techniques again (See demonstration # 1)
4. Demonstrate procedure for treatment:
   - A. Place sterile dressing over amputated section (do no touch amputated section) (control bleeding)
   - B. Keep amputated section moist with saline solution, if available
   - C. Preserve amputated section, wrap in sterile dressing and transport with patient
5. Review treating patient for shock.

SOFT TISSUE INJURIES

DEMONSTRATION # 5: DRESSING AND BANDAGING IMPALED OBJECT INJURY

Demonstrate the following procedures on a practice arm that has an impaled object or use a student to simulate the injury; use make-up and props for a more realistic situation.

1. Review Primary Survey.
2. Do Secondary Survey (assume trauma-related problem).
3. Determine situations when an impaled object should be removed, and if so demonstrate technique.
4. If object is not to be removed, demonstrate technique for stabilizing an impaled object. Include
    - A. Situations where object is impaled in the eye
    - B. Situations where object is impaled in any other part of the body
    - C. Situations where impaled object is too large to transport.
5. Review treatment of shock.

DEMONSTRATION # 6: DRESSING AND BANDAGING AN EYE OR SCALP INJURY

The dressing and bandaging of special eye injuries is covered in other demonstrations.

The avulsed eye is covered in Demonstration #3, and impaled object in the eye is covered in Demonstration #5, and burns of the eye are covered in Demonstration #10. In addition, in Demonstration #2 the dressing and bandaging of injuries to the scalp and eye are briefly covered. Thus, this demonstration is concerned with lacerations to the eyelid and scalp. As an option, this demonstration can be used as part of Demonstration #2 or as a completely separate demonstration. The main purpose of this demonstration is to stress the fact that extreme direct pressure should not be used when dressing and bandaging these types of injuries. Demonstrate these procedures using a student to simulate the injuries.

1. Demonstrate treatment of a laceration of the eyelid. Include
    - A. Expect profuse bleeding
    - B. Check globe to see it is not injured
        - (1) if globe is lacerated
        - (2) pressure should not be used to control the bleeding
    - C. Cover the bleeding lid with loose dressing

DEMONSTRATION # 6: (CONTINUED)

    (1) just enough pressure to hold dressing in place
  D. If eyelid is torn
    (1) handle with care
    (2) preserve any fragments by wrapping in dressing
    (3) transport fragment to hospital

2. Demonstrate treatment of a laceration to the scalp. Emphasize

  A. Check for spine injury
  B. Check for cerebrospinal fluid flowing
    (1) from ears and nose
    (2) do not attempt to block flow
    (3) but apply loose dressing to prevent contamination and infection
  C. Cover open wound with loose dressing, apply no pressure.

DEMONSTRATION # 7: DRESSING AND BANDAGING AN INJURY TO FACE OR NECK

Demonstrate the following procedures on a manikin or student who is simulating a face or neck wound:

1. Review Primary Survey.

2. Review Secondary Survey (assume trauma-related problem). Emphasize checking for cervical spine injury.

3. Demonstrate hemorrhage control such that:

  A. Place dressing over wound, and
  B. Apply direct pressure with palm or fingers
  C. Do not apply so much pressure that it might cause other damage beneath the surface

4. Demonstrate treatment of a cheek injury. Emphasize

  A. Dress both sides of cheek
  B. Maintain airway

5. Demonstrate neck injury and severe bleeding. Emphasize

  A. Place pressure dressing over wound

DEMONSTRATION # 7: (CONTINUED)

B. Apply digital pressure above and below injury site
  (1) this will prevent air from entering circulatory system
  (2) if air enters the circulatory system, patient may die

C. If wound is deep, it may penetrate pharynx or larynx, so an adequate airway must be maintained.

6. Review treatment for shock.

DEMONSTRATION # 8: DRESSING AND BANDAGING A SUCKING CHEST WOUND

Demonstrate the following procedures having a student simulating the injury

1. Review Primary Survey.

2. Review Secondary survey (assume trauma-related problem).

3. Emphasize the following signs:

   A. Bright red frotny blood at patient's mouth
   B. A "sucking" sound at site of bleeding
   C. Shortness of breath
   D. Failure of chest to expand
   E. Rapid, weak pulse (do not demonstrate how to take pulse)
   F. Low blood pressure (do not demonstrate how to take blood pressure)
   G. Cyanosis (lips, finger tips, etc.)

4. Demonstrate treatment. Include the following:

   A. Place sterile dressing over wound (assume no impaled object)
   B. Cover dressing with airtight seal (plastic, aluminum foil)
   C. Secure airtight material with tape, making sure all the edges are sealed, so that air cannot enter
   D. Note: If patient worsens (greater difficulty breathing), then remove seal immediately, define tension pneumothorax

5. Review treatment for shock.

SOFT TISSUE INJURIES

DEMONSTRATION # 9: DRESSING AND BANDAGING AN ABDOMINAL INJURY

Demonstrate the following on a student simulating the injury. Make-up may be used to make the situation more realistic.

1. Review Primary Survey.

2. Review Secondary Survey.

3. Demonstrate technique for dealing with evisceration. Include

    A. Place patient on back and legs flexed
    B. Do not attempt to replace protruding organs
    C. Place moist sterile dressing over exposed organs
    D. Consistently keep dressing moist
    E. Do not give patient anything by mouth

4. Review treatment for shock.

DEMONSTRATION # 10: DRESSING AND BANDAGING BURNS

Demonstrate the following procedures using a student simulating the injury:

1. Review Primary Survey

2. Review Secondary Survey.
3. Discuss determining the cause of burn. Include

    A. Examining situation
    B. Types:
        (1) electrical
        (2) chemical
        (3) thermal
        (4) light (eye exposure - eye injury only)
    C. If electrical
        (1) remove patient from dangerous situation
        (2) but do not endanger self

4. Discuss determining exact location of burns:

DEMONSTRATION # 10: (CONTINUED)

4. continued

   A. Look for:
      (1) redness of skin
      (2) blisters
      (3) charring
   B. Cut away clothing, if appropriate
   C. If electrical burn:
      (1) look for entry
      (2) look for exit

5. Present degrees of burns

   A. First
   B. Second
   C. Third

6. Discuss the "Rule of Nines" to determine the amount of body surface burned (child and adult).

7. Discuss determining severity

   A. Critical
   B. Moderate
   C. Minor

8. Discuss treatment of burns. Include:

   A. Third degree or severe second
   B. Second or first degree
   C. Chemical burn
      (1) wet
      (2) dry
      (3) chemical burn of the eye
   D. Thermal burn to eyes
   E. Light burn to eyes

9. Review treatment for shock.

SOFT TISSUE INJURIES

PRACTICE SESSIONS FOR STUDENTS

INTRODUCTION

After the lecture and demonstrations, students should be given the opportunity to practice their skills. This practice session can be conducted in one of several ways:

1. Students can be given the skill evaluation sheets as a job aid or to guide their practice or they can use their notes taken during the lecture and demonstration. Students should be informed as to what materials and job aids they will be permitted to use.

2. If assistant instructors are available, they can be assigned to groups of students to ensure that the students understand the skill and procedures. If assistant instructors are used, the instructor should train and evaluate the assistant instructors on their ability to perform the required skills prior to the practice exercise.

3. Depending upon the number of students and available manikins, the students should be separated into small groups. Each group can be assigned a skill to practice or all groups can practice the same skill at the same time.

4. Students in the group should be asked to help other students, if assistant instructors are not available. Often times, students can communicate with other students in a more efficient manner than the instructor.

During the practice session, the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills.

2. Should assist any and all students during their practice to:

    A. Correct any incorrect procedures, point out errors.
    B. Provide "hints" on ways to recall the correct procedures.

3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedure with them--repeating the demonstrations.

4. Should be careful not to occupy too much of the students' time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

The students have the following responsibilities:

1. To practice skills until they feel comfortable with the procedures.

2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

SOFT TISSUE INJURIES

PRACTICE SESSION #1

Divide the class into groups of two or three.

Equipment

1. Gauze dressings (4" x 4", 4" x 8")
2. Multi-trauma dressings
3. Triangular bandages
4. Tape (1-1/2" x 3")
5. Gauze roller bandages
6. Tape scissors
7. Elastic roller bandages
8. Tourniquets

Skills

1. Control severe hemorrhage.
2. Bandage simple bleeding injury to extremity.
3. Bandage simple bleeding injury to trunk of body.
4. Bandage simple bleeding injury of the head.
5. Bandage simple bleeding injury of the face.
6. Bandage simple bleeding injury of a joint.
7. Bandage simple bleeding injury of a foot.
8. Bandage simple bleeding injury of a hand.

PRACTICE SESSION # 2

Divide the class into groups of two or three.

Equipment

1. Gauze dressings (4" x 4" , 4" x 8")
2. Multi-trauma dressings
3. Triangular bandages
4. Tape (1½" x 3")
5. Gauze roller bandages
6. Tape scissors
7. Elastic roller bandages
8. Tourniquets
9. Burn sheets
10. Paper cups
11. Plastic sheets
12. Aluminum foil
13. Moulage kit/casulty simulation kit

SOFT TISSUE INJURIES

PRACTICE SESSION # 2: (CONTINUED)

Skills

1. Dress and bandage impaled object in chest.
2. Dress and bandage sucking chest wound.
3. Dress and bandage avulsed eye or hand.
4. Dress and bandage amputation.
5. Dress and bandage simple puncture wound.
6. Dress and bandage laceration of the arm.
7. Dress and bandage frostbite.
8. Dress and bandage electrical burn.
9. Dress and bandage chemical or thermal burn.
10. Dress and bandage protruding abdominal organ.
11. Dress and bandage wet chemical burn of the eye.

SOFT TISSUE INJURIES

Student's Name____________________________

Passed______________Failed_______________

Arm________________Leg__________________

SKILL EVALUATION #1 - CONTROL OF BLEEDING

(Please check those elements which are done incorrectly, out of sequence, or omitted by the student.)

_____A. Conducts primary and secondary survey.

_____B. Determines location of wound and cuts clothing away from wound area (if appropriate).

_____C. Selects appropriate dressing and applies direct pressure over wound by placing hand over dressing.

_____D. Elevates extremity (if appropriate) still applying direct pressure.

(Instructor, after observing direct pressure and elevation of extremity, says, "Bleeding has not been stopped.")

_____E. Locates supplying artery; for leg, locates femoral artery, and for arm, locates brachial artery.

For Leg Only

_____F. Places heel of hand on inside of groin and applies pressure outward with heel of hand toward the bone.

For Arm Only

_____G. Holds patient's arm at right angle to the body with palm up, place palm of one hand between patient's elbow and arm pit, presses fingers in groove created by bicep and tricep muscles on the inside of the arm. Instructor can check effectiveness by palpating victim's radial artery.

Instructor, after checking for pulse, says, "Bleeding has not stopped."

_____H. Wraps tourniquet around extremity (assume arm) as close to wound as possible.

_____I. Places rolled-up cloth over main artery under tourniquet material.

_____J. Knots tourniquet material.

_____K. Inserts rod-like device in knot.

_____L. Tightens only enough to stop bleeding. (Instructor may check by palpating victim's radial artery.)

_____M. Attaches note to patient indicating tourniquet (T.K.) has been applied and time of application.

SOFT TISSUE INJURIES

Student's Name____________________________

Passed______________Failed________________

SKILL EVALUATION #2 - IMPALED OBJECT

(Please check those elements which are done incorrectly, out of sequence, or omitted by the student.)

_____A. Conducts primary and secondary survey to determine extent of injuries (treats life-threatening problem first).

_____B. Cuts clothing away from wound, if appropriate.

_____C. Does not remove or disturb impaled object.

_____D. Stabilizes object with bulking dressings to each side of object, applying no more pressure than necessary.

_____E. Applies bandage so that object movement is limited.

_____F. Places paper cut over object (tapes paper cut in place) (if object less than 2").

Instructor asks student, "What if object was longer than two inches and inhibited patient movement?" Student should reply, "Cut six to eight inches from skin surface."

SOFT TISSUE INJURIES

Student's Name____________________________

Passed______________Failed_______________

Hand________________Eye__________________

SKILL EVALUATION #3 - AVULSION

(Please check those elements which are done incorrectly, out of sequence, or omitted by the student.)

_____A. Conducts primary and secondary survey to determine extent of injuries (treats any life-threatening problem first).

_____B. Determines location of injury.

(Assumes Hand)

_____C. Places bulky dressings over injury site but does not apply pressure.

_____D. Preserves the avulsed part in moist dressing to transport with patient.

_____E. Applies bandages.

If location is Eye:

_____F. Makes thick dressing and cuts hole in center the size of avulsion.

_____G. Passes dressing past avulsion being careful not to touch it.

_____H. Positions cup over dressing; avoids cup touching eye.

_____I. Tapes cup in position.

_____J. Applies bandages.

_____K. Informs patient that both eyes are going to be bandaged and why.

SOFT TISSUE INJURIES

Student's Name____________________

Passed____________Failed____________

SKILL EVALUATION #4 - CHEMICAL BURN: FOREARM

(Please check those elements which are done incorrectly, out of sequence, or omitted by the student.)

Instructor places chemical container near patient.

_____A. Conducts primary survey and treats any life-threatening problems.

_____B. Conducts secondary survey and determines cause of burn is chemical (by finding container).

_____C. Cuts away any clothing, if appropriate.

_____D. Determines degree of burn (instructor may ask, "What degree of burn is it?"). Instructor must give student signs and symptoms.

_____E. Determines amount of body surface burned (instructor may ask, "Approximately what percent of the body is burned?").

_____F. Determines severity of burn (instructor may ask, "What is the severity of the burn?").

At this point, the instructor is to inform the student that the burn was caused either by a wet or dry chemical, unless this is obvious from the situation.

For wet chemical:

_____G. Flushes area with water (go to I).

For dry chemical:

_____H. Brushes off as much as possible.

_____I. Covers injured area with clean dressing.

_____J. Secures dressings with bandages.

_____K. Transports chemical or label with patient.

SOFT TISSUE INJURIES

Student's Name____________________________

Passed______________Failed_______________

SKILL EVALUATION #5 - AMPUTATION

(Please check those elements which are done incorrectly, out of sequence, or omitted by the student.)

_____A. Conducts primary and secondary survey to determine extent of injuries (treats any life-threatening problems).

_____B. Places sterile dressing over amputated section.

_____C. Keeps amputated section moist with saline solution if available.

_____D. Controls bleeding:

_____ Pressure Point

_____ Elevation

_____ Tourniquet

_____E. Secures dressing with bandages.

_____F. Transports amputated section to hospital with patient.

SOFT TISSUE INJURIES

Student's Name____________________________

Passed_______________Failed_______________

SKILL EVALUATION #6 - SUCKING CHEST WOUND

(Please check those elements which are done incorrectly, out of sequence, or omitted by the student.)

_____A. Conduct primary survey and secondary survey to determine extent of injuries (treats any life-threatening problems).

_____B. Checks for bright red frothy blood at patient's mouth, "sucking" sound at wound, shortness of breath, failure for chest to expand, pulse rate, blood pressure, and cyanosis.

_____C. Places sterile dressing over wound.

_____D. Covers dressing with airtight material (e.g., plastic or aluminum foil).

_____E. Tapes edges of material with wide tape so no air can enter.

(Instructor says, "Patient's condition is worsening.")

_____F. Removes seal immediately.

_____G. Controls bleeding.

_____H. Secures dressings.

SOFT TISSUE INJURIES

Student's Name______________________________

Passed________________Failed________________

SKILL EVALUATION #7 - ABDOMINAL WOUND

(Please check those elements which are done incorrectly, out of sequence, or omitted by the student.)

_____A. Conducts primary and secondary survey to determine extent of injuries (treats any life-threatening problems).

_____B. Does not touch or try to replace any protruding organs.

_____C. Places patient on back with legs flexed to relieve tension on abdominal muscles.

_____D. Covers protruding organ with moist sterile dressing; keeps dressing moist.

_____E. Secures dressing with bandages and tape.

_____F. Checks for signs of internal bleeding.

_____G. Checks and monitors vital signs.

_____H. Does not give patient anything by mouth.

SOFT TISSUE INJURIES

Student's Name________________________

Passed______________Failed____________

Cheek_______________Neck______________

SKILL EVALUATION #8 - NECK OR FACE INJURY

(Please check those elements which are done incorrectly, out of sequence, or omitted by the student.)

_____A. Conducts primary and secondary survey for extent of injuries (treats any life-threatening problems).

_____B. Checks for cervical spine injury by looking and feeling for deformity or bony protrusions (assume absence of any spine injury).

Injury to cheek:

_____C. Places dressing inside mouth.

_____D. Places dressing outside of cheek.

_____E. Applies direct pressure to wound area.

_____F. Secures dressing with bandages and tape.

Injury to neck:

_____G. Applies dressing over wound and applies direct pressure.

_____H. Applies digital pressure above and below wound area to stop air from entering circulatory system.

_____I. Secures dressings with bandages and tape.

_____J. If wound penetrates pharynx or larynx, maintains an adequate airway.

SOFT TISSUE INJURIES

Student's Name____________________________

Passed________________Failed______________

SKILL EVALUATION #9 - CHEMICAL BURN (EYE)

(Please check those elements which are done incorrectly, out of sequence, or omitted by the student.)

_____A. Conducts primary and secondary survey to determine the extent of injuries (treats any life-threatening problems).

_____B. Flushes eye with water even if it is determined chemical is dry. Asks patient to blink.

_____C. Places loose dressing on injured and uninjured eye.

_____D. Explains procedures to patient and tells patient not to move eyes

_____E. Secures dressings with bandages and tape.

_____F. Transports chemical container and/or label to hospital with patient.

SOFT TISSUE INJURIES

TASK I

SOFT TISSUE

ELEMENTS	EXPLANATION
	Assumes that the rescuer has examined the patient and has determined that there exists evidence of Soft Tissue Injury. Assumes treatment of Soft Tissue Injury is now a priority and the following equipment is available. A. Scissors B. Gauze dressings C. Tourniquet D. Roller gauze and ace bandages E. Aluminum foil F. Plastic (airtight material) G. Styrofoam cup
1. Determine specific location of wound. If necessary, cut clothing with scissors to expose area of wound. (If patient is impaled upon an object, LOOP 1) (If injury is an avulsion, LOOP 2) (If injury is a burn, LOOP 3) (If injury is frostbite, LOOP 4) (If injury is an evisceration, LOOP 5) (If injury is an amputation, LOOP 6) (If area of injury is the scalp or eye, LOOP 7) (If injury is a sucking chest wound, LOOP 8) (If area of injury is the face or neck, LOOP 9) (If internal hemorrhage is suspected, LOOP 10)	While examining the patient for area of injury, the rescuer should never: A. Disturb any dressing already applied; or, B. Touch the wound area if it is not necessary. If any of the patient's clothing is sticking to the wound area, the rescuer must cut around the wound in an effort not to disturb the material in the wound.
2. Place gauze dressings over the wound and apply direct pressure over the wound with the palm and fingers of the hand to control hemorrhage. (If injury area is not an extremity, go to Task Element #10)	Pressure applied should not be so great that any other injuries beneath the surface wound will be complicated (e.g., a fracture). If blood comes through dressing, apply more gauze and maintain pressure. If dressings are not available, the bare hand can be used. If possible, patient may assist by applying pressure to injury site and holding dressing in place.

SOFT TISSUE INJURIES

TASK I (CONTINUED)

SOFT TISSUE

ELEMENTS	EXPLANATION
3. If injury is on the upper extremities, elevate extremity above level of heart to aid clotting process.	
4. Determine if bleeding is controlled. (If it is controlled, go to Task Element #11)	
5. Locate the supplying artery (e.g., the brachial or femoral artery) and apply digital pressure to the artery with the hand and fingers.	The brachial artery lies between the biceps and triceps muscle on the inside of the upper arm. The femoral artery lies midway between the ilio-pubic prominences in the groin. The finger tips may be used for digital pressure to the brachial artery. However, the pressure applied to the femoral artery may require greater pressure than can be exerted by the finger tips. The femoral artery may require pressure by the heal of the hand in order to slow the flow of blood. Pressure should be applied enough to reduce flow of blood to allow clotting.
6. Determine if bleeding is controlled. (If it is controlled, go to Task Element #11)	
7. Wrap a tourniquet around the extremity, as close to the wound as possible, and place a pad under the tourniquet next to the supplying artery.	Assumes that a commercial tourniquet is used. The pad will make the tourniquet more effective since more pressure can be applied to the supplying artery in this way. There is one basic rule wich must be remembered in the application of a tourniquet. When a tourniquet is applied, it is to sacrifice a limb to save the patient's life. A tourniquet is a last resort measure of hemorrhage control. Since the portion of the limb beyond the tourniquet will no longer be receiving blood and oxygen, that portion of the limb will die. If the tourniquet must be applied, it should be applied as close to the wound as possible to leave the patient with as

SOFT TISSUE INJURIES

TASK I (CONTINUED)

SOFT TISSUE

ELEMENTS	EXPLANATION
	much of the extremity remaining as possible. If the wound is located midway between the knee and the ankle, the rescuer should attempt to apply the tourniquet somewhere below the knee to provide the patient with the use of the knee joint once the artificial limb is applied. The proximity of the tourniquet application to the wound is dependent upon the nature, location, and scope of the wound.
8. Pull the strap through the buckle or friction catch tight enough to stop the flow of blood.	If the tourniquet is too tight, it may cause further, unnecessary damage to the limb (perhaps making the point of amputation that much higher). If commercial tourniquet is not available, an alternate device may be constructed by using a rolled ace bandage as the pad, and a wide cravat or necktie as the strap. The pressure may be applied by making a windlass.
9. Attach a notation to the patient concerning the fact that a tourniquet has been applied and of the time that it was applied.	This notation may be a tag kept with the tourniquet or if there is no tag available, the letters "TK" should be placed on the patient's forehead. If no writing implement is available that will write on skin, blood may be used.
10. Determine if bleeding is controlled. If bleeding is not controlled continue previously described hemorrhage control methods.	
11. Determine if all wounds have been treated. (If all wounds have not been treated, go to Task on "Multi-Problem Triage.")	If there are other urgent problems and the wound has been treated with the application of a dressing, it may be necessary to avoid spending time on the bandaging process. If time is available, the bandaging may be done following the application of the dressing.

SOFT TISSUE INJURIES

TASK I (CONTINUED)

SOFT TISSUE

ELEMENTS	EXPLANATION
12. Secure dressings by either using tape to tape dressing in place, or by wrapping dressing with roller gauze, or an ace bandage.	When using an ace bandage, be sure not to wrap the bandage too tightly because it may act as a tourniquet. It should also be mentioned that if an extremity is to be bandaged, it is imperative that the fingers or toes be left exposed to check for circulation.
13. If patient has encountered traumatic situation, treat for shock. (See Task, "Treatment of Shock.")	It should always be assumed that in cases where trauma or blood loss are present, patient should be treated for shock.
14. Determine if patient is in life-threatening condition. If yes, prepare to transport. ("Transportation Task")	
15. Determine if all patients have been treated. (If no, go to Task "Multi-Patient Triage.")	

SOFT TISSUE INJURIES

LOOP 1

Impaled Object

ELEMENTS	EXPLANATION
	Assumes patient is impaled upon some object.
1. Determine if the impaled object should be removed.	Any attempt to remove an impaled object may result in further internal tissue damage and the possibility of worsening the condition of the patient. Only in the following cases should an impaled object be removed: A. Object impaled in the cheek B. Impaled object is interfering with CPR efforts C. Impaled object prevents evacuation of victim from dangerous situation (e.g., burning building).
2. *If* object must be removed, pull object out of victim along path of entry. Avoid any excess movement. (Go to Task Element #1.)	As previously stated, removal of the object may cause further internal damage.
3. Place enough bulk dressings around the object to immobilize the object. Do not apply more direct pressure than necessary.	By immobilizing the object in this manner, the probability of further injury is reduced. The size of the impaled object will determine the size of the bulk dressing used to immobilize the object. In the case of a small pencil-like object, gauze sponges may be stacked around the object to accomplish the immobilization while, in the case of a large metal shaft, towels or blankets may be necessary.
4. Secure dressings in such a manner that they will not permit further movement.	Ace bandages, roller gauze, or tape may be used.
5. Determine if the object is too big to be maneuverable (e.g., arrow too long to get patient in vehicle).	The procedure described in No. 6 should only occur if the length of the object prohibits efficient transportation. Great care must be exercised to prevent additional soft tissue injury through the movement.
6. *If* necessary, the object should be cut off six to eight inches from the skin surface. (Go to Task Element #13.)	

SOFT TISSUE INJURIES

LOOP 2

Avulsion

ELEMENTS	EXPLANATION
1. Place bulk dressings over injury site. Use enough dressing to immobilize injury. Do not apply pressure.	By immobilizing the object in this manner, the probability of further injury is minimized. The size of the avulsion will determine the size of the bulk drssing.
2. If the injury is an avulsed eye, do not attempt to replace eye, but immobilize in the position found. Place patch over uninjured eye.	Immobilization of the eye may be done by cutting a hole in the gauze and placing gauze dressing around eye. A Styrofoam cup may then be placed over eye to protect it.
3. Secure dressings in place using tape or roller gauze. (Go to Task Element #13)	

SOFT TISSUE INJURIES

LOOP 3

Burns

ELEMENTS	EXPLANATION
1. Determine the cause of the burn: A. electrical B. chemical C. thermal D. light (eye injuries only) (If cause of burn is chemical, LOOP 3, Element #8) (If cause of burn is electrical, is electrical danger still present? e.g., fallen wires. If yes, go to Task "Hazards".)	This may be done by examining the situation and evaluating information available. Example of causes of various burns are as follows: Electrical: bare wires on appliances light sockets fallen high tension wires Chemical: (acids or bases) cleaning fluids fertilizers drain cleaner Thermal: open flames sunburn boiling water hot stove
2. Determine exact location of burn. It may be necessary to cut away clothes for better access. (If an eye injury is indicated, LOOP 3, Element #11)	Burn sites are characterized by redness of the skin, blisters, or charring of the skin. Electricity must have an entrance and an exit point in the body. The exit point is most likely to be where the victim was grounded from the electricity. Example: The electricity may enter the victim in the shoulder, travel down through the chest and stomach area and come out at the side of the leg. Be sure to check for two burns if it is a burn from an electrical source.
3. Determine degree of burns: First, Second, Third.	A. First degree burns are limited to the most superficial layer of the epidermis and result in redness of the skin. B. Second degree burns result in redness and blistering with some damage to the deeper layer of the skin. C. Third degree burns are full thickness burns of skin and are the most serious. The skin appears

SOFT TISSUE INJURIES

LOOP 3 (CONTINUED)

Burns

ELEMENTS	EXPLANATION
	dry, pale, or white and may be brown or charred. First and second degree burns are accompanied by severe pain because the sensory nerves are exposed and damaged. There is a loss of pain sensation in third degree burns due to the destruction of the sensory nerves.
4. Determine amount of body surface burned using the "rule of nines" by adding designated percent of those areas of the body which are burned.	The following percentages are designated to the specified areas of the body: **Adult** — Percent Head 9 Each Arm 9 Each Leg 18 Front Torso 18 Back Torso 18 **Infant** Head 18 Each Arm 9 Each Leg 14 Front Torso 18 Back Torso 18
5. Determine severity of burn victim following criteria established.	The criteria for burns is as follows: Critical burns 1. Burns complicated by respiratory tract injury and fractures 2. Third degree burns involving the critical areas of the face, hands, and feet 3. Third degree burns covering more than 10 percent of the body surface 4. Second degree burns covering more than 30 percent of the body surface Moderate burns 1. Third degree burns of 2 to 10 percent of the body surface and

SOFT TISSUE INJURIES

LOOP 3 (CONTINUED)

Burns

ELEMENTS	EXPLANATION
	not involving the face, the hands, and the feet 2. Second degree burns involving 15 to 30 percent of the body surface 3. First degree burns involving 50 to 75 percent of the body surface Minor burns 1. Third degree burns of less than 2 percent of the body surface 2. Second degree burns of less than 15 percent of the body surface 3. First degree burns of less than 20 percent, excluding face, hands, and feet
6. If charring, third degree, or severe second degree burns exist, cover the burn with a dry sterile nonadhering dressing (sheet or pillow case). (Go to LOOP 3, Element #14.)	Also watch for respiratory distress if burns are around the face or if the victim has been exposed to hot gases or smoke. (If respiratory distress exists, go to Task "Respiratory Arrest")
7. If a first or second degree burn exists, immerse burn in cold water for 2 to 5 minutes and cover burn with a cold moist sterile dressing. (Go to LOOP 3, Element #14.)	Again, a sheet or pillow case would be appropriate if special sterile dressings were not available. Use cold wet applications periodically for pain relief.
8. Determine if the chemical is a wet chemical or a dry chemical. If chemical is wet, flush the area with water. If chemical is a dry chemical, brush off as much as possible.	Remove all clothing before or during the flushing with water or brushing off of the chemical. Flushing the area with water dilutes the liquid chemical and removes the chemical from the area. Dry chemical usually has a definite reaction when water is added. Putting water on a dry chemical would do more harm than good.
9. Transport label or container to hospital.	It will be of great assistance to the hospital personnel to know the exact chemical that has caused the burn.

SOFT TISSUE INJURIES

LOOP 3 (CONTINUED)

Burns

	ELEMENTS	EXPLANATION
10.	Continue treatment if possible or cover with sterile dressing. (Go to LOOP 3, Element #14)	The dressing should either be dry or moist, depending upon treatment rendered.
11.	If thermal burn to the eyes is indicated, place loose, moist dressing over injured eye.	This is the basic treatment for any burn. It should assist in reducing pain, and attempt to retain the moisture of the eye.
12.	If light burn (over-exposed to light) is indicated, place dark opaque patches over both eyes.	This should prevent any further aggravation of the injury.
13.	If eye injury by chemical burn is indicated, flush with water, even if it is a dry chemical.	Eyes must be given special care. They should be flushed with water for at least five minutes (for acids) and sometimes for twenty minutes (for alkalis). Hold the lids open, as pain will make it impossible for the victim to cooperate.
14.	If an injury to the eye is involved, be sure both eyes are dressed. Tell victim not to move eyes, as this may aggravate the situation. (Go to Task Element #12.)	

SOFT TISSUE INJURIES

LOOP 4

Frostbite

ELEMENTS	EXPLANATION
1. Determine if patient is in a location where uninterrupted thawing may occur.	It must be emphasized that once the limb begins to thaw, it must not be refrozen.
2. If patient must be moved, put clothing over the frostbite to prevent deepening of the injury, and move patient to area where uninterrupted thawing can occur.	Even if a patient has to walk on a frostbitten foot or leg, he/she should move as rapidly as possible.
3. If water and containers are available, heat water to between 100 - 150 degrees F. and immerse frostbitten section.	Thermometer should be used to insure the temperature is kept within specified ranges.
4. If heated water is unavailable, or the frostbitten section is impossible to immerse (e.g., ears) use heat from rescuer's body to thaw frostbitten section.	
5. Do not rub or manipulate frostbitten section.	This will cause damage to the tissue.
6. Continue treatment as necessary.	The appearance of blisters in frostbite is a good sign of some recovery of tissue.
7. Once thawing has begun, do not permit victim to walk or use frostbitten section. (Go to Task Element #13)	

SOFT TISSUE INJURIES

LOOP 5

Evisceration

ELEMENTS	EXPLANATION
1. Place a moist sterile dressing over the exposed organs.	Care must be exercised to avoid pushing the exposed organs back through the abdominal wall. If the vehicle is equipped with sterile aluminum foil, the foil may be used as a dressing instead of gauze.
2. The dressing should be secured with tape and kept moist enroute to the hospital with a sterile saline solution if available. (If internal hemorrhage is indicated, go to LOOP 10, Element #1) (Go to Task Element #13)	The most convenient source of sterile saline solution is an I.V. fluid bottle. The dressing should not be "dripping wet", but must always remain damp.

SOFT TISSUE INJURIES

LOOP 6

Amputation

ELEMENTS	EXPLANATION
1. Place sterile dressing over amputated section to control bleeding.	
2. Keep amputated section moist with a saline solution if available.	The most convenient source of sterile saline solution is an I.V. fluid bottle. The dressing should not be "dripping wet", but must always remain damp.
3. Transport amputated segment to hospital with victim. (Go to Task Element #2)	

SOFT TISSUE INJURIES

LOOP 7

Scalp or Eye Injuries

ELEMENTS	EXPLANATION
	Assumes area of injury is scalp or eye.
1. Place dressing over area of wound and apply only enough pressure to hold the dressing in place.	In a wound of the scalp, it may be dangerous to apply direct pressure to the wound since this may result in complication of an existing head injury. In a wound of the eye, any pressure may force the vitreous humor out of the eye. This fluid is irreplaceable and its loss may mean loss of sight.
2. If injury area is the eye, then place patch over uninjured eye. (Go to Task Element #12)	

SOFT TISSUE INJURIES

LOOP 8

Sucking Chest Wound

ELEMENTS	EXPLANATION
	Assumes sucking chest wound, and not merely surface injury. Wound penetrating the chest cavity may have the following observable signs and symptoms. A. Bright red frothy blood at the patient's mouth B. A "sucking" sound at site of the hemorrhage C. Shortness of breath D. Failure of the chest to expand E. Rapid, weak pulse F. Low blood pressure G. Cyanosis (lips, finger tips or fingernails)
1. Place sterile dressing over wound.	
2. Cover dressing with airtight material (e.g., plastic).	
3. Form airtight seal over wound by taping edges of airtight material down.	This step will prevent all flow of air into chest cavity through injury.
4. Monitor patient's condition.	This will include observing for signs of shock (See appropriate Task).
5. If patient's condition worsens, remove airtight seal from around dressing. Air will rush out if there has been a build-up in the chest cavity. Do not replace airtight seal. (If internal hemorrhage is indicated, go to LOOP 10, Element #1) (Go to Task Element #12)	

SOFT TISSUE INJURIES

LOOP 9

Injury to Face or Neck

ELEMENTS	EXPLANATION
1. Check for cervical spine injury by looking and feeling for deformity or bony protrusions in area. (If cervical spine injury is suspected, go to Task of Immobilization of a Spinal Injury).	Cervical spine injury will take precedence over soft tissue injury.
2. Place gauze dressings over the wound and apply direct pressure over the wound with the palm or fingers of the hand.	Pressure applied should not be so great that any others beneath the surface wound will be complicated (e.g., fractures). If blood comes through the dressing, apply more gauze and maintain pressure.
3. If the injury is to the cheek, it will be necessary to dress both sides of the cheek by placing a gauze dressing in the mouth and press it against the wound.	
4. If the injury is in the area of the neck and is bleeding severely, place a pressure dressing over the wound area and apply digital pressure above and below the injury sight.	Neck wounds may bleed heavily and in order to prevent air from possibly entering the circulatory system, digital pressure must be applied above and below the wound. If air enters the circulatory system at the neck, there is a high probability that the patient may die.
5. If the wound is deep enough to penetrate into the pharynx or larynx, an adequate airway must be maintained. (Go to Airway Maintenance if appropriate) (Go to Task Element #10)	

SOFT TISSUE INJURIES

LOOP 10

Internal Hemorrhage

ELEMENTS	EXPLANATION
	Assumes internal hemorrhage is indicated. Treatment will be similar to that of Acute Abdomen.
1. Determine patient's vital signs. (See task "Diagnostic and Vital Signs")	
2. Monitor vital signs every ten minutes.	This is necessary to evaluate any change in the patient's condition.
3. Treat for shock. (See task "Treatment of Shock") (Go to Task Element #13)	The rescuer can do very little for internal hemorrhage, except to treat for shock, monitor patient's condition, and transport to the hospital.

MODULE V

CENTRAL NERVOUS SYSTEM TRAUMA

CENTRAL NERVOUS SYSTEM TRAUMA

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the student will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80% of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a list of components, the student will be able to correctly identify the three components of the nervous system.

2. Given a list of parts, the student will be able to correctly identify the parts which compose:

   A. The central nervous system
   B. The peripheral nervous system

3. Given a list of descriptive statements, the student will be able to correctly identify those statements that describe the brain. The list of statements will contain, among others, the following descriptions:

   A. Soft
   B. Richly supplied with blood
   C. Little room for swelling
   D. Cells have no regenerating ability

4. Given a list of functions, the student will be able to correctly identify the function (s) of the spinal cord.

5. Given a list of bony structures, the student will be able to correctly identify the bony structure that protects the spinal cord.

6. Given a diagram of the spinal cord with line indicators and a list of labels, the student will be able to correctly locate the labels with the line indicators. The labels to be located consist of:

   A. Anterior and posterior gray horns
   B. Pia mater
   C. Arachnoid
   D. Dura mater
   E. Vertebra
   F. Spinal ganglion
   G. Ventral root
   H. Dorsal root

7. Given a list of fluids, the student will be able to correctly identify the fluid which protects the brain.

8. Given a list of fibers, the student will be able to correctly identify the fibers which conduct impulses from the brain to:

   A. Muscles
   B. Skin and organs

9. Given a list of muscular activities (e.g., blinking, heart action), the student will be able to correctly identify those activities which are:

   A. Voluntary
   B. Involuntary

10. Given a list of signs, the student will be able to correctly identify those signs typically associated with a skull fracture.

11. Given a list of injuries to the brain; i.e.,

    A. Bruising
    B. Pressure
    C. Laceration
    D. Concussion

    the student will be able to correctly identify the injury associated with the following conditions:

    A. A blunt object striking the skull causing swelling but no bone fragmentation.
    B. A stroke causing blood vessels in the brain to rupture.
    C. An object striking the skull causing a fracture and inward fragments.
    D. An object striking the skull causing no fracture, laceration, or bleeding in the brain, but causing momentary loss of consciousness.

12. Given a list of conditions, the student will be able to correctly identify those conditions where brain injury should be suspected.

13. Given a list of activities, the student will be able to correctly identify the activity to perform when opening an airway of an unconscious patient suspected of having a neck injury.

14. Given a list of activities, the student will be able to correctly identify the activity(ies) to perform when cerebrospinal fluid is present and flowing from the ears and nose.

15. Given a list of patient conditions, the student will be able to identify the condition which should be treated first; given that the patient has the following:

    A. Neck injury
    B. Fractured arm
    C. Laceration of thigh with venous bleeding
    D. First degree burn of the chest

16. Given a list of accidents, the student will be able to correctly identify the accident(s) commonly associated with neck and/or spinal injuries.

17. Given a list of labels of vertebrae, the student will be able to correctly identify the labels with a given back location.

18. Given a list of vertebrae, the student will be able to correctly identify the vertebrae that is splinted by the ribs and commonly not injured.

19. Given a list of signs of spinal injury, the student will be able to correctly identify the most reliable sign of spinal injury.

20. Given a list of check points, the student will be able to correctly identify the check point that should be checked first when checking for paralysis.

21. Given a list of patient conditions (e.g., able to wiggle the toes), the student will be able to correctly identify the probable location of spinal damage.

22. Given a list of activities, the student will be able to correctly identify the activity(ies) to perform when checking for paralysis in an unconscious patient.

23. Given a list of procedures, the student will be able to correctly identify the procedures to use when applying and maintaining traction on a patient with a cervical spine injury.

24. Given a list of steps sequenced in various orders, the student will be able to correctly identify the sequence of steps involved in treating an unconscious breathing patient with a cervical spine injury and severe bleeding where direct pressure is not stopping the bleeding.

25. Given a list of signs, the student will be able to correctly identify the signs associated with diaphragm breathing.

26. Given a list of activities, the student will be able to correctly identify the activity(ies) to perform when treating a patient with a spinal injury, who is displaying diaphragm breathing.

27. Given a list of descriptions, the student will be able to correctly identify the description associated with neurogenic shock.

28. Given a list of activities, the student will be able to correctly identify the activity(ies) to perform when treating a patient with neurogenic shock.

29. Given a list of activities, the student will be able to correctly identify the activity(ies) to perform when treating a drowning victim with a suspected cervical spine injury.

30. Given a list of activities, the student will be able to correctly identify the activity(ies) to perform when a lower extremity check for paralysis is negative (i.e., reveals no paralysis).

31. Given a list of activities, the student will be able to correctly identify the activity(ies) to perform when cervical collar is not available or cannot be used because of deformities.

32. Given a list of locations, the student will be able to correctly identify the location(s) to place padding under a patient when using:

    A. A short spine board
    B. A long spine board
    C. Straps for spine boards

33. Given a list of equipment, the student will be able to correctly identify which equipment to use in immobilizing a patient with a spinal or neck injury in the following situations:

    A. A seated automobile accident victim
    B. A victim found 11 inches from an immovable wall

34. Given a list of body locations, the student will be able to correctly identify the locations in which the patient is lifted onto a long spine board when:

    A. The straddle technique is used
    B. The log roll technique is used

35. Given a list of activities, the student will be able to correctly identify the activity(ies) to perform when treating a patient with a spine injury, where gross deformities exist.

36. Given a list of activities, the student will be able to correctly identify the activity(ies) to perform when immobilizing a patient with a suspect spine injury and bleeding.

CENTRAL NERVOUS SYSTEM TRAUMA

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given a fellow student posing as a conscious victim in the supine position with a suspected spinal injury with no gross deformities, a fellow student for an assistant, and cervical collar and/or sandbag and/or a towel and straps, the student will be able to correctly:

   A. Apply traction to the patient while the assistant surveys the patient for spinal damage, checks for paralysis, and applies a cervical collar and/or a horse collar.
   B. Surveys the patient for spinal damage, checks for paralysis and applies a cervical collar and/or a horse collar while the assistant applies traction.

   Successful performance requires only that the standard and accepted procedures and techniques be used and that the student complete both activities. Successful performance does not involve the complete immobilization of the patient.

2. Given a fellow student posing as an unconscious victim in the supine position with a suspected spine injury with no gross deformities, a fellow student for an assistant, and a pencil or suitable sharp object, the student will be able to correctly survey the patient for spinal damage and check for paralysis while the assistant applies traction. Successful performance does not involve the application of a cervical collar, traction, or the complete immobilization of the patient, it involves only the check for spinal damage and paralysis.

3. Given a fellow student posing as a conscious, seated automobile accident victim with a suspected spine injury with no gross deformities, a short spine board, six straps, cervical collar, seven towels or other suitable materials, long spinal board, head and chin straps or roller gauze, an automobile, two fellow students as assistants, the student will be able to correctly and completely immobilize the patient. The assistants will only be permitted to perform activities as directed by the student under evaluation and the assistants' activities will be limited to:

   A. Apply traction
   B. Position the long spine board
   C. Assist the patient onto the long spine board

Successful performance involves:

A. The direction of the assistants in their responsibilities
B. Application of cervical collar
C. Immobilization of patient on short spine board
D. Immobilization of patient on long spine board

Student's performance will be judged on the adherences to accepted and standard procedures as well as how well the victim is immobilized.

4. Given a fellow student posing as a victim with a suspected spine injury in the supine position, a long spine board, four towels or other suitable material, five students working as a team will be able to correctly log roll the patient onto the long spine board. Successful performance involves the adherence to the accepted procedures in using the log roll technique and the coordination of the team members to log roll the patient without causing further damage to the patient.

5. Given a fellow student posing as a victim with a suspected spine injury in the supine position, a long spine board and four towels or other suitable materials, four students working as a team will be able to correctly slide the patient on the long spine board using the straddle technique. Successful performance involves the adherence to the accepted procedures in using the straddle slide and the coordination of the team members to place the patient on the long spine board without causing further damage to the patient.

6. Given a fellow student posing as a conscious victim (in the prone position) with a suspected lumbar spine injury, an orthopaedic stretcher, two fellow students as assistants, and three straps, the student will be able to correctly immobilize and secure the patient on the orthopaedic stretcher. Successful performance involves the accepted procedures in using the orthopaedic stretcher and the immobilization of the patient's lower back region. The assistants will only be permitted to:

A. Attach the foot of the stretcher
B. Position the patient so that the scoops can be placed under the patient by the student

CENTRAL NERVOUS SYSTEM TRAUMA

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will be responsible for the following activities:

1. Distribute the study activity sheet and handouts during the class period prior to beginning this module.

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 265-285, 475-483.

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 109-120.

2. This Module is planned for 6 hours. The lecture will involve the use of slides, handouts, and filmstrips. The content of the lecture is specified in the Module Outline.

   A. Slides are from the EMERGENCY CARE SERIES by Robert J. Brady Company, Units 2 and 6.

   B. Filmstrips are from BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.

      (1) Immobilizing Neck and Back Injuries, Unit 12.

   C. Filmstrip from EMERGENCY MEDICAL CARE SERIES, by Trainex:

      (1) Nervous System, Program No. 326, Track 1 and 2.

   D. Handouts: No. 10 Nervous System

   E. References:

      (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons), (1975), 2nd Edition. Pages: 181-194.

      (2) Advanced First Aid and Emergency Care by the American National Red Cross, (1973). Pages: 49-51, 57, and 87.

      (3) Human Function and Structure, by Dorothy S. Laciana, Ph.D, Arthur J. Vandes, M.D., and James H. Sherman, Ph.D.; (1978) McGraw-Hill Company.

      (4) The Spine, by Margot Kopsides Phillips, The Journal of Emergency Care, April 1978. Page 49.

      (5) Management of Cervical Spine Fractures Using Gardner-Wells Tongs, by George T. Anast, M.D. Emergency Care, April 1978. Pages: 41-43.

(6) Management of Spinal Cord Injuries, by Robert R. Jackson, M.D., Emergency Care, April 1978. Pages: 41-43.

(7) Standards and Criteria of Care for Spinal Cord Injured Persons, by the New England Spinal Cord Injury Foundation, Inc.

F. Alternative Learning Resources:

(1) Filmstrips from the EMERGENCY CARE SERIES, by Trainex.

(a) Injuries to the Head and Spine, Program No. 394.
(b) Moving the Sick and Injured, Program No. 395.

G. Review Instructional Material and Equipment.

3. Prepare notes and conduct the demonstration sessions. The demonstrations consist of:

A. Application of traction, cervical collar, and survey for conscious patients

B. Spinal survey of the unconscious patient

C. Uses of the short and long spine board

D. Log roll of patient onto a long spine board

E. Straddle-slide technique

F. Use of the orthopaedic stretcher

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

5. After the practice session and lecture(s), the instructor will evaluate the student's ability to perform each of the demonstrated skills. In addition, each student will be required to take a written examination. After completing the evaluations, the instructor will advise the student on his/her progress and suggest remedial instruction if appropriate.

CENTRAL NERVOUS SYSTEM TRAUMA

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and Chalkboard
Overhead
Screen
Filmstrip/Cassette Machine
Model of Brain
Model of Vertebral Column and Spinal Cord

Medical

Cervical Collars (small, medium, and large)
Sandbags (3 lbs.) (2)
Long Spine Board (72" with straps) (one for every 5 students)
Short Spine Board (32" with straps) (one for every 5 students)
Jump Kit with Equipment
Triangular Bandages
Blankets
Air Splint
Orthopaedic Stretcher
Automobile
Restraining Straps
Multi-level Stretcher
Portable Stretcher

MATERIALS

Task Sheets
Skill Development Checklist
Handout No. 10
Skill and Knowledge Objectives
Skill Evaluation Sheets
Written Examination

AUDIOVISUALS

Slides: Emergency Care Series, (Units 2 and 6)
Filmstrips: Basic Skills for the EMT, (Unit 12)

CENTRAL NERVOUS SYSTEM TRAUMA

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material assigned prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 265-285, 475-483.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 109-120.

3. Handouts: No. 10 Nervous System
   For student use during the anatomy portion of the lecture.

4. Student Skill Development Checklist for Central Nervous System Trauma. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

5. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

6. Alternative Learning Resources:

   A. Filmstrips: EMERGENCY MEDICAL CARE, by Trainex.

      (1) Injuries to the Head and Spine, Program No. 394.
      (2) Moving the Sick and Injured, Program No. 395.

7. Skill Development Checklist begins on next page.

CENTRAL NERVOUS SYSTEM TRAUMA

7. Before leaving this module the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTORS INITIAL
Performance Skills:			
A. CNS Secondary Survey			
1. Conscious victim			
2. Unconscious victim			
B. Manual traction cervical injury			
C. Application of cervical collar			
D. Straddle slide			
E. Log roll			
F. Short spine board			
G. Long spine board			
H. Horse collar			
I. Orthopaedic stretcher			
J. Sandbag immobilization			

CENTRAL NERVOUS SYSTEM TRAUMA

THE NERVOUS SYSTEM

HANDOUT # 10

I. Terms and definitions

- A. Neurology--Study of the nervous system
- B. Neuron--Basic nerve cell
- C. Nerve--Bundle of nerve fiber, blood vessels, and connective tissue outside the central nervous system
- D. Gray matter--Nonmyelinated nervous tissue; primarily the bodies of nerve cells
- E. White matter--Nervous tissue composed of myelinated nerve fibers
- F. Cerebrospinal fluid--Watery fluid found in the ventricles of the cerebrum and surrounding the spinal cord
- G. Ventricle--One of the small cavities of the brain
- H. Stimulus--Any agent or influence that produces a response or increase in activity in living protoplasm
- I. Regeneration--Repair, regrowth, or restoration of a part
- J. Affector--Group of cells functioning in reception of stimuli; receiving end of sensory nerves (These are receptor nerves)
- K. Effector--Nerve endings that carry out actions (These are motor nerves)
- L. Occipital--Pertaining to the back of the head
- M. Cerebral cortex--Outer layer of gray matter of the cerebrum

II. Functions of the nervous system

- A. Reception of external impressions and information; this is external stimuli
- B. Coordination of internal messages; this is internal stimuli
- C. Response and readjustment to internal and external stimuli
- D. Storage of information; this is memory
- E. Coordination of all body activities

III. Subdivisions of the nervous system and their components

- A. Central nervous system; CNS
  - 1. Brain
  - 2. Spinal Cord
- B. Peripheral nervous system; PNS
  - 1. Cranial nerves; there are twelve pairs
  - 2. Spinal nerves; there are thirty-one pairs
- C. Autonomic nervous system; involuntary nervous system; ANS
  - 1. Sympathetic division
  - 2. Parasympathetic division

IV. Neurons

- A. Sensory or afferent--Receive messages from all parts of the body and transmit them to the central nervous system

HANDOUT # 10 cont.

- B. Central connecting, or internuncial--Conduct messages or impulses from sensory to motor nerves (Only found in the CNS)
- C. Motor or efferent--Transmit messages from the central nervous system to all parts of the body

V. Regeneration of peripheral nerves

- A. Neurons do not multiply as other cells do to replace those destroyed by injury or disease
- B. Nerve fiber of the peripheral nervous system can regenerate onlv if the cell bodv is intact
- C. Nerve fibers of the central nervous system are not covered with neurilemma and therefore are incapable of regeneration when damaged
- D. Nerve tissue regenerates slowly, at an approximate rate of 1.5 mm per day, so the nerve injury may persist for a long time.

VI. Parts of the central nervous system

- A. Brain
  - 1. Forebrain
    - a. Cerebrum
    - b. Thalamus
    - C. Hypothalamus
  - 2. Midbrain
  - 3. Hindbrain
    - a. Pons
    - b. Medulla or medulla oblongata
    - c. Cerebellum
- B. Spinal cord

VII. Functions of the cerebral cortex

- A. Motor areas--Control movement of muscles
- B. Sensory areas--Receive impulses of heat, cold, touch, pain, pressure and proprioception from receptors (Proprioception is the awareness of posture, movement, changes in equilibrium and the knowledge of position, weight and resistance of objects in relation to the body.)
- C. Association areas--Concerned with higher mental functions such as learning, memory, reasoning, judgment, conscience, thinking, insight and emotions

VIII. Functions of the brain

- A. Forebrain
  - 1. Frontal lobe of cerebrum--Controls voluntary muscles and judgement
  - 2. Parietal lobe of cerebrum--Controls sensory functions such as pain, touch and temperature interpretation
  - 3. Temporal lobe of cerebrum--Controls hearing, smell and taste
  - 4. Occipital lobe of cerebrum--Controls vision

HANDOUT # 10 cont.

5. Thalamus--Serves as relay center; monitors sensory stimuli
6. Hypothalamus--Controls body temperature, water balance, sleep, appetite, some emotions such as fear and pleasure, and both divisions of the autonomic nervous system

B. Midbrain--Serves as a reflex center

C. Hindbrain
1. Pons--connecting link between the cerebrum and cerebellum
2. Medulla--Controls vital functions such as breathing, heart rate, blood pressure, swallowing and coughing
3. Cerebellum--Maintenance of balance, equilibrium, coordination and muscle tone

IX. Spinal cord

A. Oval-shaped bundle of nerves extending from the medulla to the level of the second lumbar vertebra where it begins to taper into a "horse tail" of fibers that finally end in the coccygeal area.

B. Cross section of the spinal cord reveals an inner H-shaped area of gray matter surrounded by white matter

X. Functions of the spinal cord

A. Conducts impulses to and from the brain

B. Serves as a reflex center to receive and transmit messages through the nerve fibers

XI. Protection of the central nervous system

A. Nervous tissue is fragile and easily injured; surrounded by fluid, membranes, and bones for protection

B. Cranial bones encase the brain; vertebrae encase the spinal cord

C. Meninges, a tough membrane, lines cranial bones and vertebrae with three layers of tissue
1. Dura mater, outer layer--Provides protection
2. Arachnoid membrane--Resembles a cobweb with cerebrospinal fluid filling the space under it
3. Pia mater, inner layer--Thin vascular layer containing blood vessels which bring oxygen and carry away waste products

XII. Blood supply to the brain

A. Four arteries, two internal carotids and two vertebrae, unite to form the circle of Willis at the base of the brain

B. Circular arrangement of the arteries equalizes the circulation of blood and provides an alternate passageway for blood in case of blockage of one of the arteries

C. Approximately fifteen percent of the total output of the heart is needed by the brain for normal function (Either too little oxygen or too much carbon dioxide causes dilatation of the arteries of the brain permitting more blood to reach the brain.)

HANDOUT # 10 cont.

D. Numerous centers of function in the brain require an adequate supply of oxygen at all times (If the blood supply to the brain is halted for 6 to 10 minutes, irreversible changes take place.)

XIII. Formation, purpose and absorption of cerebrospinal fluid

A. Formation--Produced constantly by filtration from the blood in the capillaries of the brain and in the ventricles
B. Purpose--Cerebrospinal fluid circulates around the brain and spinal cord maintaining an even pressure and acting as a cushion or shock absorber
C. Absorption--Continually absorbed by the blood vessels to maintain constant volume, pressure and composition

XIV. Cranial nerves

A. Twelve pairs of cranial nerves
B. Functions
  1. Convey special sense impulses such as smell, vision and hearing
  2. Convey general sense impulses such as pain, touch, temperature, deep muscle sense, and pressure and vibration senses
  3. Control voluntary muscles
  4. Control glands and involuntary muscles

XV. Names and specific functions of the cranial nerves

	NAME	NUMBER	FUNCTION
A.	Olfactory	One	Sense of smell
B.	Optic	Two	Sense of sight
C.	Oculomotor	Three	Controls part of the eyeball muscles
D.	Trochlear	Four	Controls one eyeball muscle
E.	Trigeminal	Five	Three branches supply cornea and conjunctiva; upper portion of face, ear, lower lip, teeth and gums; and muscles for chewing
F.	Abducens	Six	Controls lateral eye movement
G.	Facial	Seven	Supplies facial muscles, middle ear, taste
H.	Auditory	Eight	Sense of hearing and balance
I.	Glossopharyngeal	Nine	Taste, swallowing
J.	Vagus	Ten	Swallowing, hunger, speech muscles, breathing, heart rate, peristalsis, control of glands in stomach and pancreas
K.	Spinal accessory	Eleven	Controls muscles of neck and upper back

HANDOUT # 10 cont.

	NAME	NUMBER	FUNCTION
L.	Hypoglossal	Twelve	Controls tongue muscles

XVI. Spinal nerves

There are thirty-one pairs of spinal nerves and they are named according to the segment of spinal cord to which they are attached. Disease or injury that damages a spinal nerve will cause loss of feeling and voluntary movement to the area served by that nerve. A dermatome is an area of skin supplied by a specific spinal nerve.

	NAME	NUMBER OF PAIRS
A.	Cervical	Eight
B.	Thoracic	Twelve
C.	Lumbar	Five
D.	Sacral	Five
E.	Coccygeal	One

XVII. Reflex arc

A. Simplest type of nerve response which is unconscious and involuntary
B. Involves an affector, an afferent neuron, a connecting neuron in the spinal cord, an efferent neuron, and an effector
C. Examples include kneejerk or patellar, abdominal, achilles, biceps, triceps and plantar reflexes; blinking of eye when something touches it; or secretion of saliva at sight or smell of food

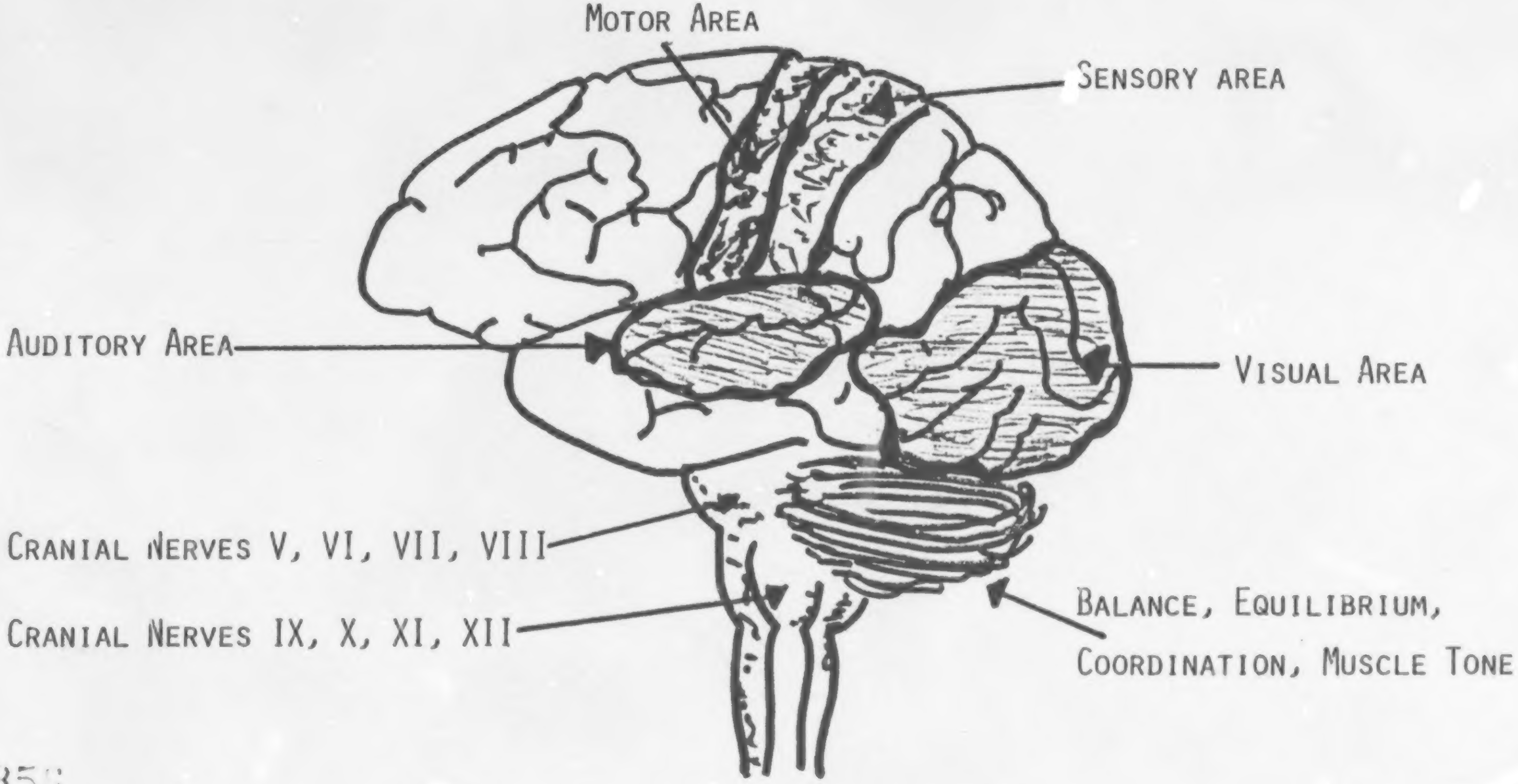
XVIII. Autonomic nervous system

A. Function--Regulates the action of the glands, the smooth muscles of the hollow organs, and the heart automatically without one being consciously aware of them much of the time
B. Divisions
    1. Sympathetic; thoracolumbar
    2. Parasympathetic; craniosacral

HANDOUT # 10

CENTRAL NERVOUS SYSTEM TRAUMA

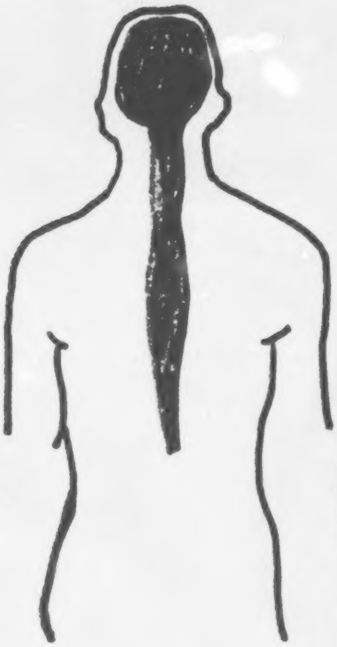
FUNCTIONAL AREAS OF THE BRAIN


MOTOR AREA
SENSORY AREA
AUDITORY AREA
VISUAL AREA
CRANIAL NERVES V, VI, VII, VIII
CRANIAL NERVES IX, X, XI, XII
BALANCE, EQUILIBRIUM, COORDINATION, MUSCLE TONE

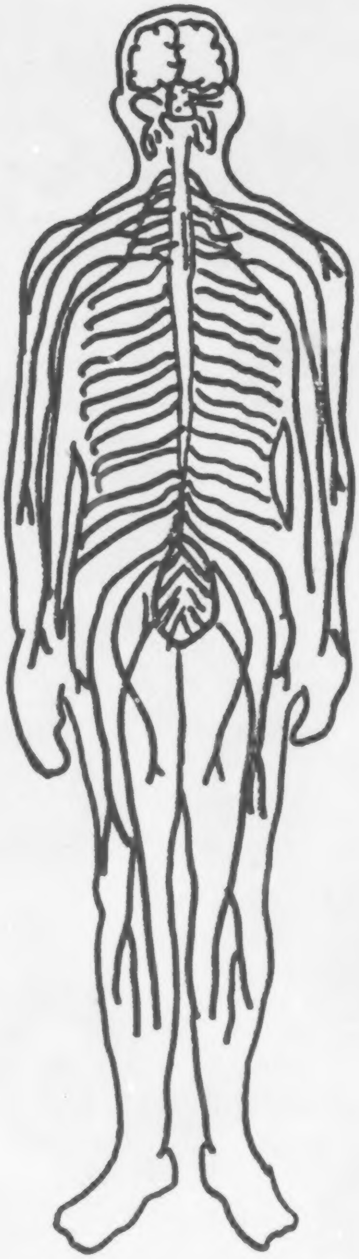
CENTRAL NERVOUS SYSTEM TRAUMA

HUMAN NERVOUS SYSTEM

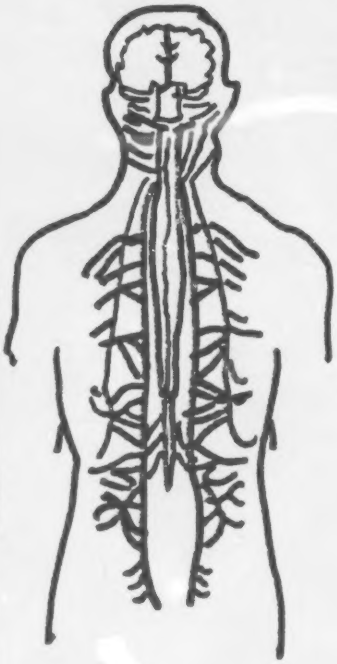
HANDOUT # 10



CENTRAL



PERIPHERAL

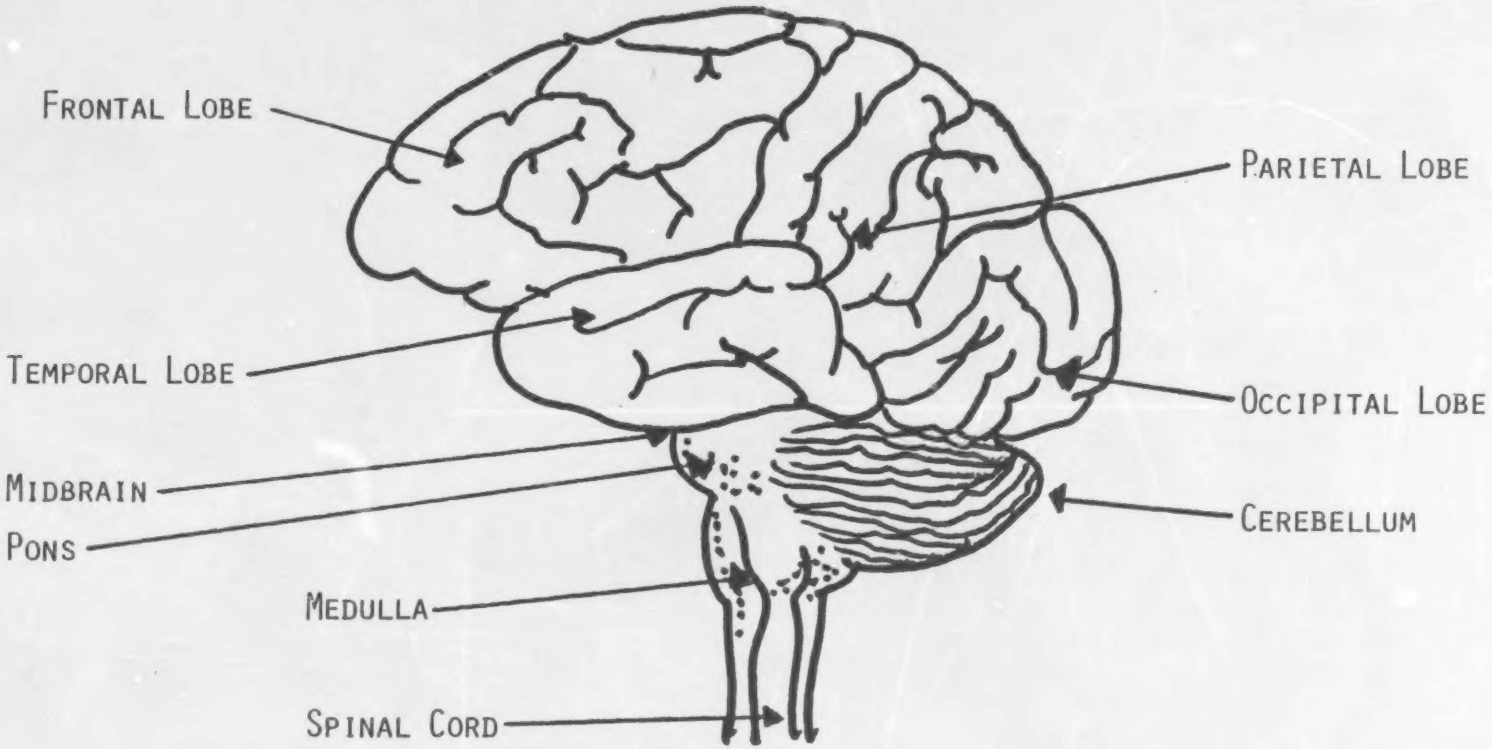


AUTONOMIC

HANDOUT # 10

CENTRAL NERVOUS SYSTEM TRAUMA

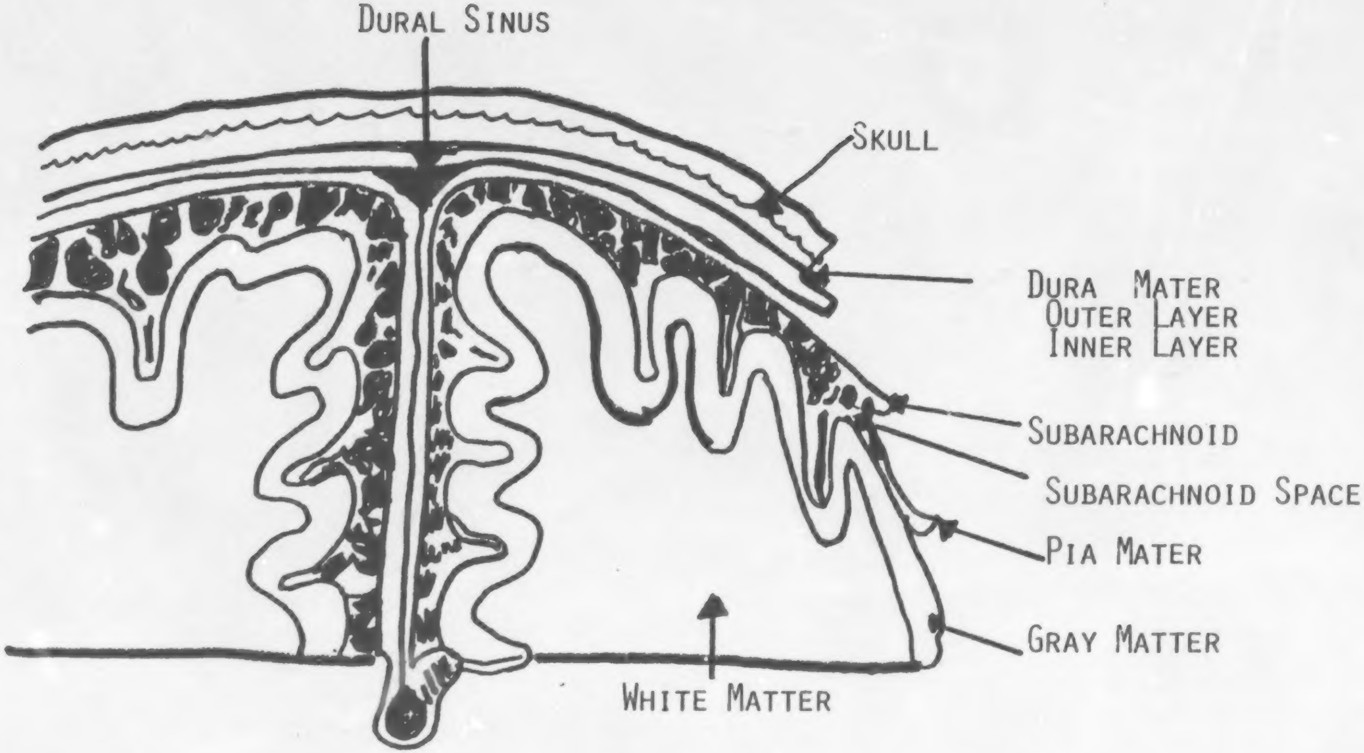
EXTERNAL SURFACE OF THE BRAIN


FRONTAL LOBE
PARIETAL LOBE
TEMPORAL LOBE
OCCIPITAL LOBE
MIDBRAIN
PONS
CEREBELLUM
MEDULLA
SPINAL CORD

CENTRAL NERVOUS SYSTEM TRAUMA

CORONAL SECTION OF TOP OF HEAD

HANDOUT # 10


DURAL SINUS
SKULL
DURA MATER
OUTER LAYER
INNER LAYER
SUBARACHNOID
SUBARACHNOID SPACE
PIA MATER
GRAY MATTER
WHITE MATTER

CENTRAL NERVOUS SYSTEM TRAUMA

LECTURE TOPICS	REFERENCES
I. Nervous System A. Terms B. Functions	Handout #10
II. Central Nervous System A. Brain 1. Controlling organ of the body 2. Located in and protected by the cranium - little room for swelling 3. Tissues of the brain repair themselves very slowly, if at all, after injury B. Spinal Cord 1. Continuation of the brain 2. Conducts impulses from the brain to the body and back again 3. Located in and protected by a series of bones called vertebra 4. Divides and extends to all parts of the body	
III. Peripheral Nervous System A. Sensory Nerves 1. Located all over the body 2. Provide information which the brain uses to make decisions 3. Examples of some sensory nerves are pain, temperature, taste, touch, and the rest of the five senses	

LECTURE TOPICS	REFERENCES
B. Motor Nerves 1. Controlled by the brain 2. Control muscle movement IV. Protection of the Nervous System A. Bony Protection 1. Cranium - protects the brain 2. Vertebral column - protects the spinal cord B. Tissues Protection 1. Meninges - protective covering around the nerves themselves 2. Body tissues - major nerves lie deep within the body tissues for added protection C. Fluid Protection 1. Cerebrospinal fluid - acts as a shock absorber for the brain and spinal cord and also provides nourishment V. Function of the Total Nervous System A. Spinal Cord Level 1. Reflex actions 2. Messenger to and from brain B. Lower Brain Level 1. Automatic action - breathing 2. Involuntary control of muscles a. dilatation or constriction of blood vessels b. erection in a male 3. Emotional patterns - personality	

LECTURE TOPICS	REFERENCES
C. Higher Brain Level (critical level) 1. 3/4's of entire nervous system 2. Conscious action - driving a car 3. Voluntary control of muscles - shaking hands	
D. Interaction of all Three Levels 1. Wakefulness and sleep 2. Ability to distinguish blunt vs. sharp objects	
VI. Skull Fracture	
A. Types 1. Open - reduces cerebral pressure by allowing external hemorrhage 2. Closed - creates cerebral pressure by allowing only internal hemorrhage	
B. Survey 1. Procedure 2. Symptoms a. deformities b. discoloration of soft tissues under the eyes c. bleeding from the scalp d. mechanism of injury e. presence of brain injury or cervical spine fracture	Module III Task 1
C. Management	
VII. Brain Injuries	

CENTRAL NERVOUS SYSTEM TRAUMA

LECTURE TOPICS	REFERENCES
A. Types	
1. Bruising or contusion	
2. Laceration	
3. Concussion	
4. Massive pressure	
B. Survey	
1. Procedure	Module III Task 2
2. Symptoms	
a. unconsciousness	
b. deep coma	
c. convulsions	
d. paralysis	
e. vomiting	
f. blood or clear fluid in nose and ears	
g. unequal pupils	
h. personality change	
i. respiratory arrest creating hypoxic cardiac muscle leading to cardiac arrest	
j. presence of skull fracture or cervical spine fracture	
C. Management	
1. Procedure	
2. Cautions	
a. maintain airway	
b. observe for breathing pattern changes (Respiratory Arrest)	
c. assume cervical spine fracture and immobilize	
d. cover but do not block drainage from nose and ears	
e. cover but do not stop bleeding from an open skull fracture unless bleeding is severe	

LECTURE TOPICS	REFERENCES
D. Diseases and Disorders of the Brain	
VIII. Spinal Cord Injuries	Task 1
A. Anatomy	
B. Mechanisms of Injury 1. Twisting force - falling down a flight of stairs 2. Compressing force - rock falls on a coal miner's head 3. Hyperextending force - whiplash 4. Hyperflexing force - whiplash	
C. Types 1. Severing of spinal cord - paralyzing 2. Pressure on spinal cord - numbness and tingling	
D. Causes 1. Vertebral fracture 2. Herniated disc 3. Dislocated disc	
E. Survey for Spinal Injuries 1. Procedure 2. Symptoms a. tenderness or pain b. deformity c. cuts and bruises (discoloration)	
d. paralysis - determine extent of paralysis to indicate area of injury along the spine	Element 5
e. presence of skull fracture or brain injury	

CENTRAL NERVOUS SYSTEM TRAUMA

LECTURE TOPICS	REFERENCES
DEMONSTRATIONS 1 and 2	
F. Management	
1. Procedure	
a. traction	
(1) manually	Elements #17-18
(2) cervical collar	
(3) horse collar	
b. airway maintenance review	
DEMONSTRATIONS 3 and 4	
c. immobilization	
(1) full spine board	Elements #34-38
(2) orthopaedic stretcher	LOOP 2
(3) portable stretcher	LOOP 3
DEMONSTRATIONS 5 and 6	
(4) half spine board	Elements #24-30
d. removal	
(1) position spineboard	
(2) rotate patient	
(3) lay patient down	
(4) slide out on board	
e. alternate material	LOOP 4

CENTRAL NERVOUS SYSTEM TRAUMA

DEMONSTRATION #1: APPLICATION OF TRACTION, CERVICAL COLLAR, AND SURVEY OF CONSCIOUS PATIENT

During the Demonstration session, the instructor should demonstrate the following skills to students using a manikin.

1. Determines if gross deformities exist
    - A. Explain how to determine
    - B. Explain what to do if exists
    - C. Explain what to do if does not exist
2. Applies and maintains tractions
    - A. Show location of rescuer
    - B. Show location of rescuer's
        - (1) hands
        - (2) fingers
    - C. Explain and show how to exert outward pull
    - D. Explain how long to maintain traction
3. Determine if patient is conscious
    - A. Explain how to determine
    - B. Discuss differences in procedures between conscious and unconscious
    - C. For this demonstration assume patient is conscious
4. Ask patient which area of spine is possibly injured
    - A. What to do if patient does not indicate any pain
    - B. What to do if patient indicates pain (i.e., inform patient of every action)
5. Observes patient during procedures for any movement and associated pain
    - A. Do not ask patient to move
    - B. If moves, request patient to minimize movement
6. Move fingers across injured area
    - A. Demonstrate procedure
    - B. Explain purpose
    - C. Explain how to do if patient is not in accessible position for procedure
7. Check lower extremities for paralysis
    - A. Explain and demonstrate procedures
        - (1) touch
        - (2) wiggle
        - (3) raise legs
        - (4) exert pressure

B. Explain what to do if patient can and cannot perform

8. Check upper extremities

    A. Explain and demonstrate procedures
    B. Explain what to do if patient can and cannot perform
    C. Explain meaning and conclusion from observations of checking lower and upper extremities

9. Dress any external hemorrhage of spinal area

    A. Explain why
    B. Explain how

10. Determine selection of equipment

    A. Briefly explain equipment
    B. Briefly explain purpose of equipment

11. Demonstrate procedures to immobilize neck

    A. Demonstrate how to attach cervical collar
    B. Demonstrate how to make and secure horse collar
    C. Demonstrate how to use sandbags as alternative material

DEMONSTRATION # 2: SPINAL SURVEY OF AN UNCONSCIOUS PATIENT

1. Review initial steps

    A. Determine if gross deformities exist
    B. Apply and maintain traction

2. Determine if patient is conscious

    A. Explain how to determine
    B. Assume patient is unconscious

3. Check for paralysis of the lower extremities

    A. Explain and demonstrate procedure
    B. Explain reaction if no spinal cord damage
    C. Explain what to do if spinal cord damage is indicated

4. Check for paralysis of the upper extremities

    A. Explain and demonstrate procedure
    B. Explain reaction if no spinal cord damage

5. Determine location of injury using data or information gathered in paralysis check.

6. Review remaining procedures.

DEMONSTRATION #3. SHORT AND LONG SPINE BOARD

Demonstrate in a vehicle, if possible:

1. Review need to do primary survey.
2. Review need to do secondary survey.
3. Determine if gross deformities exist by visual examination.
4. Apply and maintain traction (review)
   - A. Explain and demonstrate how
   - B. Show placement of hands and fingers
   - C. Show how to exert pressure
5. Conduct spinal survey (review)
   - A. Conscious patient
   - B. Unconscious patient
6. Determine equipment to be used
   - A. Explain criteria for determination
   - B. Briefly discuss equipment
7. Attach cervical collar (review)
   - A. Explain and demonstrate how
   - B. Discuss alternate procedures
     - (1) sandbags
     - (2) towels
     - (3) horse collar
8. Determine if patient's position needs to be modified
   - A. Discuss criteria for determination
   - B. Explain why not recommended procedure
9. Modify patient's position
   - A. Explain how
   - B. Demonstrate how
   - C. Explain what to do if patient experiences pain or discomfort

10. Prepare short spine board

    A. Explain and demonstrate how to attach straps
    B. Explain position of buckle

11. Position short spine board behind patient

    A. Explain how; e.g., position of board
    B. Demonstrate how

12. Secure patient to short spine board

    A. Explain and demonstrate how the straps are located around torso
    B. Explain and demonstrate what to do if patient's shoulder blades will not conform to short spine board
    C. Explain and demonstrate how to pull straps to secure patient

13. Fill void between neck and board with

    A. Towel
    B. Air splint
    C. Secure patient's head using forehead straps and chin
        (1) explain
        (2) demonstrate procedure, location of straps
        (3) discuss alternate materials
    D. Fill air splint so that it is firm

14. Evaluate immobilization on short spine board

    A. Explain how to evaluate
    B. Discuss procedures if patient is not immobilized

15. Determine if patient's position needs to be modified to place on long spine board

    A. Explain why
    B. Explain and demonstrate how to adjust position
    C. Explain why not a recommended procedure

16. Position long spine board next to patient; demonstrate and explain how.

17. Rotate patient so that patient is in position for long spine board

    A. Explain and demonstrate how to rotate patient
    B. Explain why it is essential not to twist torso when rotating patient

18. Lift patient onto long spine board

    A. Explain and demonstrate how
    B. Explain location of assistants
    C. Explain necessity to avoid lifting with short spine board

19. Release straps on thighs

    A. Explain and demonstrate how
    B. Explain need to keep feet and legs supported

20. Place rolled towels under voids

    A. Explain and demonstrate how
    B. Explain why
    C. Explain location of towels

21. Secure patient to long spine board with straps

    A. Explain and demonstrate how
    B. Explain location of straps

DEMONSTRATION #4: LOG ROLL PATIENT TO LONG SPINE BOARD

1. Review need to do primary and secondary survey.

[illegible] Determine amount of space available

    [illegible] Explain when to use log roll
    [illegible] Explain when to use straddle-slide
    [illegible] Discuss amount of space needed for both procedures

[illegible]cuss number of rescuers needed

    [illegible] Discuss use of bystanders
    [illegible] Discuss need for coordination

4. Discuss procedure for patients in

    A. Supine positions
    B. Prone positions

5. First rescuer takes a position at patient's head

    A. Demonstrate application of traction (review)
    B. Explain why must maintain traction

6. Second rescuer raises patient's arm

    A. Demonstrate maneuver
    B. Explain which arm
    C. Explain why patient's arm is raised

7. Three rescuers position themselves next to patient's side

    A. Demonstrate each position
    B. Explain why they should be on same knee

CENTRAL NERVOUS SYSTEM TRAUMA

8. Second rescuer at patient's shoulder
    - A. Demonstrate position of hands
    - B. Explain grip

9. Third rescuer at patient's buttocks
    - A. Demonstrate position of hand
    - B. Explain grip

10. Fourth rescuer at patient's knees
    - A. Demonstrate position of hands
    - B. Explain grip

11. Roll patient on command
    - A. Explain who gives command
    - B. Explain duty of rescuer at patient's head
    - C. Explain direction patient is to be rolled
    - D. Demonstrate

12. Second rescuer slides board and places rolled towels in void areas
    - A. Explain how to slide board and its position
    - B. Explain location of voids
    - C. Demonstrate

13. Roll patient on long spine board upon command
    - A. Explain who gives command
    - B. Explain need for cooperation
    - C. Explain why patient must be kept in straight line
    - D. Demonstrate

14. Secure patient to board
    - A. Explain how
    - B. Explain location of straps

CENTRAL NERVOUS SYSTEM TRAUMA

DEMONSTRATION #5: STRADDLE-SLIDE

1. Review need to do primary and secondary survey.

2. Determine amount of space available to function around patient

   A. Discuss advantages of straddle-slide in limited space
   B. Discuss disadvantages of log roll technique

3. Discuss need for four rescuers.

4. First rescuer:

   A. Discuss position
   B. Discuss direction
   C. Demonstrate position and direction
   D. Explain and demonstrate application of traction
      (1) explain need to maintain traction
      (2) explain need to coordinate lift with other rescuers.

5. Second rescuer:

   A. Discuss position
   B. Discuss direction
   C. Discuss position of hands and how to grasp patient
   D. Demonstrate position, direction, and location of hands

6. Third rescuer:

   A. Discuss position
   B. Discuss direction
   C. Discuss position and location of hands
   D. Demonstrate all the above

7. Fourth rescuer:

   A. Discuss position relative to patient
   B. Discuss direction relative to patient
   C. Discuss position of long spine board relative to patient
   D. Demonstrate above

8. On command, lift patient

   A. Explain how, explain needed coordination
   B. Explain height patient is to be lifted
   C. Demonstrate using students at other positions

9. Slide long board under patient.

10. Slowly lower patient to board

    A. Explain need for coordination

11. Fill in voids

    A. Explain where voids are
    B. Discuss material to be used

12. Secure patient to board (review)

    A. Explain how
    B. Discuss location of straps
    C. Demonstrate

DEMONSTRATION #6: USE OF ORTHOPAEDIC STRETCHER

1. Use of orthopaedic stretcher

   A. Discuss advantage and disadvantages for immobilizing spine
   B. Discuss advantages and disadvantages in confined space
   C. Show the equipment

2. Operation of stretcher

   A. Show how it comes apart
   B. Show how its length can be adjusted
   C. Point out its head and lower section
   D. Explain and demonstrate how pillow detaches

3. Review need to do primary and secondary survey.

4. Adjust stretcher to length of patient

   A. Review how
   B. Demonstrate again

5. Remove head support

   A. Review how
   B. Demonstrate again

6. Separate stretcher

   A. Review how
   B. Demonstrate again

7. Place both halves of stretcher along side of patient with scoops facing patient.

CENTRAL NERVOUS SYSTEM TRAUMA

8. Place half of stretcher under patient

    A. Explain and demonstrate how
    B. Explain how patient is moved
    C. Be careful not to pinch patient

9. Scoop patient on stretcher

    A. Explain how and demonstrate
    B. Explain why upper part of stretcher if fastened first
    C. Explain how to lift patient, then demonstrate

10. Fasten pillow to frame

    A. Demonstrate
    B. Explain how

11. Secure patient to stretcher using straps

    A. Discuss location of straps for prone and supine position
    B. Demonstrate

CENTRAL NERVOUS SYSTEM TRAUMA

PRACTICE SESSION FOR STUDENTS

After the lecture and demonstrations, students should be given the opportunity to practice their skills. The practice session can be conducted in one of several ways:

1. Students can be given the skill evaluation sheets as a job aid or to guide their practice, or they can use their notes taken during the lecture and demonstration. Students should be informed as to what materials and job aids they will be permitted to use.

2. If assistant instructors are available, they can be assigned to groups of students to ensure that the students understand the skill and procedures. If assistant instructors are used, the instructor should train and evaluate the assistant instructors on their ability to perform the required skills prior to the practical exercise.

3. Depending upon the number of students and available equipment, the students should be separated into small groups. Each group can be assigned a skill to practice covering all skill objectives, or all groups can practice the same skill at the same time.

4. Students in the group should be asked to help other students if assistant instructors are not available. Often times, students can communicate with other students in a more efficient manner than the instructor.

During the practice session, the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills. However, practice time should not exceed three hours.

2. Should assist any and all students during their practice to:

   A. Correct any incorrect procedures, point out errors.
   B. Provide "hints" on ways to recall the correct procedures; e.g., A, B, C's of Basic Life Support or error avoidance behavior.

3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedure with them - repeating the demonstrations.

4. Should be careful not to occupy too much of the students' time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

The students have the following responsibilities:

1. To practice the skills until they feel comfortable with the procedures.
2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

CENTRAL NERVOUS SYSTEM TRAUMA

PRACTICE SESSION #1

Divide the class into two groups

Group 1

- A. Equipment
  1. Cervical collars
  2. Sandbags
  3. Blankets
  4. Restraining straps
- B. Skills
  1. Secondary survey for nervous system injury
  2. Manual cervical traction
  3. Cervical collar application
  4. Horse collar application

Group 2

- A. Equipment
  1. Resusci-Annie
  2. Alcohol swabs
  3. Blanket
- B. Skills
  1. Secondary survey for a nervous system injury
  2. Airway establishment on a patient with a cervical spine injury (review)
  3. Mouth-to-mouth ventilation (review)
  4. Mouth-to-nose ventilation (review)

PRACTICE SESSION #2

Divide the class into two groups

Group 1

- A. Equipment
  1. Cervical collars
  2. Full spine board with straps
  3. Sandbags
- B. Skill
  1. Secondary survey for a nervous system injury
  2. Manual traction
  3. Cervical collar application
  4. Log roll onto a long spine board
  5. Straddle lift onto a long spine board

CENTRAL NERVOUS SYSTEM TRAUMA

Group 2 (Continued)

A. Equipment
   1. Cervical collars
   2. Orthopaedic stretcher with straps

B. Skills
   1. Secondary survey for nervous system injury
   2. Manual traction
   3. Cervical collar application
   4. Orthopaedic stretcher application

PRACTICE SESSION # 3

Divide the class into two groups

Groups 1 and 2

A. Equipment
   1. Cervical collars
   2. Half spine board with straps
   3. Air splint
   4. Triangular bandages
   5. Full spine board with straps
   6. Multi-level stretcher
   7. Automobile

B. Skill
   1. Secondary survey for nervous system injury
   2. Manual traction
   3. Cervical collar application
   4. Half spine board application
   5. Full spine board application

CENTRAL NERVOUS SYSTEM TRAUMA

Student's Name______________________________

Application of Traction	Secondary Survey
__________Passed	_______Passed
__________Failed	_______Failed

SKILL EVALUATION #1 - SPINAL SURVEY; CONSCIOUS VICTIM

Application of Traction
Application of Cervical Collar
Application of Horse Collar
Secondary Survey

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

Do primary and secondary survey.

_____A. Determines if gross deformity is present by visual examination.

Instructor to inform student no gross deformity exists

_____B. Applies traction by grasping patient's head with fingers at base of skull and thumbs under the patient's chin and exerts a steady outward pull. Maintains traction during entire procedure.

_____C. Determines if patient is conscious.

Instructor to inform student patient is conscious

_____D. Asks patient which area of the spine is injured and asks patient to describe any tenderness or discomfort.

_____E. Moves fingers along spine to determine increase or decrease in pain upon touch.

_____F. Checks lower extremities:

1. Touches feet, asks patient if feeling is present
2. Asks patient to wiggle toes
3. Asks patient to raise legs
4. Asks patient to press foot against student's hand

_____G. Checks upper extremities:

1. Touches palm, asks patient if feeling is present
2. Asks patient to wiggle fingers
3. Asks patient to raise arms
4. Asks patient to squeeze student's hand

_____H. Determines possible location of spinal injury.

Instructor to inform student which equipment to use (student must demonstrate use of all)

_____I. Places cervical collar around patient's neck and secures in position without inhibiting airway or carotid circulation.

_____J. Places towel around patient's neck to make horse collar, secures ends of towel with straps around patient's chest.

_____K. Places sandbags parallel to patient's cervical spine.

CENTRAL NERVOUS SYSTEM TRAUMA

Student's Name____________________________

Passed________________Failed______________

SKILL EVALUATION #2 - SPINAL SURVEY; UNCONSCIOUS PATIENT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

_____A. Determines if gross deformity is present by visual examination.

Instructor to inform student no gross deformities are present.

_____B. (By assistant only) Applies traction by grasping patient's head with fingers at base of skull and thumbs under the patient's chin and exerts a steady outward pull. Maintains traction during entire procedure.

_____C. Determines if patient is conscious by assessing communicative ability of patient.

_____D. Moves fingers along spinal column to determine if any deformities, hemorrhage or bruises are present.

_____E. Checks lower extremities for paralysis by jabbing bottom of patient's feet with pointed object. Observes curling of toes.

_____F. Checks upper extremities for paralysis by jabbing palm of hand with a pointed object. Observes hand pulling away.

_____G. Determines location of spinal injury by results obtained during paralysis check.

CENTRAL NERVOUS SYSTEM TRAUMA

Student's Name ____________________

Short Spine Board	Long Spine Board
________Passed	________Passed
________Failed	________Failed

SKILL EVALUATION #3 - SHORT AND LONG SPINE BOARD APPLICATION

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

Do primary and secondary survey.

_____A. Determine if gross deformities are present by visual examination.

_____B. Applies and maintains traction (assistant only).

_____C. Conducts spinal survey (victim conscious).

_____D. Determines equipment to be used by examining patient's injury, location and space available.

_____E. Attaches cervical collar to patient's neck.

_____F. Obtains equipment.

_____G. Determine if patient's position needs to be modified before patient can be immobilized (not recommended).

_____H. Adjusts patient's position (if needed) by supporting the patient along the entire spine and legs. (Not recommended, if performed and patient feels discomfort, move patient to more comfortable and less painful position).

_____I. Prepare short spine board by inserting two straps making an "X" on the back of the board. Buckles must be on the front.

_____J. Position board behind patient with Velcro stripping facing away from the back of the patient's head. Board should not be placed to the level of the seat.

_____K. Secure patient to short spine board by buckling the two straps. Buckle must be on patient's chest, while straps go around thighs. Note: Material may be needed to build board out for patient depending upon configuration of patient's back.

_____L. Tighten patient's torso to board by pulling on each strap simultaneously.

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_____M. Fill void between patient's neck and board with towel or air splint and secure patient's head to board using chin and forehead straps. Traction may be released at this time. Fill air splint till firm.

_____N. Evaluates immobilization; i.e., checks straps, etc.

_____O. Lift patient by lifting patient's shoulders, then slide long board under patient (assistants only). Do not lift with short spine board.

_____P. Rotate patient making sure not to twist the body and lay patient on long spine board while assistant supports patient's feet and legs.

_____Q. Release straps on thighs and slowly and carefully lower patient's legs.

_____R. Place rolled towels under knees, ankles, and small of back.

_____S. Secure patient with straps around chest, pelvis, and lower thigh.

_____T. Elevate to determine if patient is completely immobilized.

CENTRAL NERVOUS SYSTEM TRAUMA

Team Names ________________________ 1

________________________ 2

________________________ 3

________________________ 4

________________________ 5

Log Roll: __________Passed__________Failed

SKILL EVALUATION #4 - LOG ROLL ONTO LONG SPINE BOARD

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

_____A. Conduct primary and secondary survey.

Note: Instructor informs team of suspected spine injury.

_____B. First rescuer applies traction at head of patient and maintains it through entire procedures.

_____C. Second rescuer raises patient's arm above patient's head on side which the patient is to be rolled.

_____D. Remaining three rescuers position themselves:

1. Third rescuer at the patient's shoulders
2. Fourth rescuer at patient's buttocks; about mid-thigh
3. Fifth rescuer at patient's knees

All rescuers should be kneeling on the same knee, positioned next to patient's side.

_____E. Third rescuer places one hand on patient's farthest shoulder and the other over the patient's arm just below belt line.

_____F. Fourth rescuer places one hand above patient's buttocks and the other hand around the patient's mid-thigh.

_____G. Fifth rescuer places one hand behind the patient's knee and the other hand on the patient's leg just below the calf.

_____H. On command of first rescuer (head man), the four rescuers roll patient toward them, keeping patient in a straight line. First rescuer rotates patient's head along with the other three rescuers.

_____I. Second rescuer slides the long spine board next to patient.

_____J. Second rescuer places pads (rolled towels) at points where void will be created by patient's body:

1. Neck
2. Small of back
3. Under knees
4. Under ankles

_____K. On command of first rescuer (head man), the four rescuers roll patient onto spine board. First rescuer rotates patient's head along with the other three rescuers.

_____L. Secures patient to board with straps at chest, thighs, and knees.

CENTRAL NERVOUS SYSTEM TRAUMA

Team Names________________________1

________________________2

________________________3

________________________4

Straddle Slide

____________Passed____________Failed

SKILL EVALUATION #5 - STRADDLE SLIDE

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

_____A. Do primary and secondary survey.

_____B. First rescuer, stands at patient's head facing patient's feet, spreads legs, bends at waist, and applies and maintains traction throughout entire procedure.

_____C. Second rescuer, straddles the patient facing the first rescuer and places both hands under the patient's arm just below the shoulders.

_____D. Third rescuer, straddles the patient facing the first rescuer and places both hands under the patient's waist.

_____E. Fourth rescuer takes a position at the head of the patient straddling the long spine board (spine board must be lengthwise at the patient's head).

_____F. First rescuer, gives command to lift the patient.

_____G. Lift patient just enough for fourth rescuer to slide long spine board under patient.

_____H. Slide board under patient.

_____I. Lower patient to board.

_____J. Pad voids with towels; i.e., neck, small of back, under knees and ankles.

_____K. Secures patient to board with straps at chest, thighs, and knees.

CENTRAL NERVOUS SYSTEM TRAUMA

Student's Name____________________________

Passed_______________Failed______________

SKILL EVALUATION #6 - USE OF ORTHOPAEDIC STRETCHER

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

_____A. Do primary and secondary survey.

Note: Instructor to inform student survey reveals lower back injury.

_____B. Assistant applies and maintains traction during entire procedure.

_____C. Unfolds orthopaedic stretcher.

_____D. Adjusts length to fit length of patient by sliding lower end into upper end and locks into position with lock pegs.

_____E. Removes head support by pulling vinyl flaps away from top piece of pillow.

_____F. Separates both halves of stretcher by grasping head part of stretcher and depressing catch device and applies outward pressure.

_____G. Repeats step F for lower part of stretcher.

_____H. Places half of stretcher on one side of patient and the other half on other side, with scoop blades towards patient's body and pillow part at patient's head.

_____I. Places half of stretcher under patient by having assistant from other side of patient gently lifting patient (being careful not to pinch patient).

_____J. Places other half of stretcher next to patient and connects the two halves together at the head of stretcher using the catch device.

_____K. Scoops patient into stretcher by having assistant lift remaining side of patient and by closing lower part of stretcher together (being careful not to pinch the patient).

_____L. Locks lower part of stretcher together using catch device.

_____M. Slides pillow under stretcher frame with Velcro stripping facing upward.

_____N. Secures patient with straps across chest, hips, and lower thighs.

_____O. Evaluates immobilization.

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I

ELEMENTS	EXPLANATION
	Assumes that it has been determined that there is a possibility of a spinal injury. Assumes that the following equipment is available: A. Long spine board (72" with straps) B. Short spine board (32" with straps) C. Orthopaedic-type scoop stretcher (with straps) D. Rubberized canvas on aluminum frame stretcher E. Ambulance cot F. Cervical collar or sandbags
1. Determine if a gross deformity is present in spinal trauma.	
2. If gross deformity is present, do not apply traction, but stabilize in position found. Avoid movement. (Go to Task Element #4.)	
3. Apply and maintain traction to the patient's spine by grasping the patient's head with the fingers at the base of the skull and the thumbs under the chin while exerting a steady pull upward and away from the patient's shoulders.	The contact points on the patient's skull and mandible should receive equal pressure, and the traction should be applied smoothly. Once traction is applied, it should not be released or varied until the patient's spine is completely immobilized, or it has been determined that no injury exists. Regardless of the exact position of the patient, one performer should immediately take a position so that spinal traction may be applied in the manner described. The pull exerted away from the patient's shoulders will help keep any bone fragments from over-riding, severing or causing any further spinal cord damage, while the slight backward tilt of the head will help maintain an open airway.
4. Determine if patient is conscious and alert enough to talk to rescuer concerning area of injury and/or pain by asking questions. (If patient cannot communicate, LOOP 1)	Questions asked can serve a dual purpose by: A. Determining level of communicative ability

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
	B. Gathering further information concerning history and mechanisms of injury. If the patient does not indicate any pain or potential symptoms of a spine injury, the patient should still be treated as if there is a spine injury if other signs are present. If the patient is conscious, it will be necessary to constantly keep the patient informed of what procedures are being exercised for his/her protection. A spinal injury may be the greatest pain that an individual may ever have experienced or, if any degree of paralysis exists, the patient may experience little or no pain. Both conditions result in confusion and fear which may cause the patient to attempt unnecessary and potentially dangerous movements. The patient must be informed that he/she is not to move unless instructed to do so in an attempt to assess extremity paralysis. The procedures involved in the treatment of a spinal fracture do not require excessive speed, but do require slow, deliberate, and cautious movement by the performers. Deliberate, well-planned procedures may also serve to alleviate some of the confusion and fear of the injured patient.
6. Ask the patient to describe the location of any pain, tenderness, or discomfort.	
7. Determine if there is any increase or decrease in pain upon movement by observing patient's movement.	The patient should not be asked to move, but if movement occurs, observe patient for increase or decrease in pain. Any further movement of the patient may result in additional complications of the injury. Assumes that patient is in a position that permits access to injured area.

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
8. Move fingers across injured area to determine if there is any increase in pain upon touch, if there are any deformities along the spinal column, and if there are any cuts or bruises along the spinal column. Cut clothes away, if necessary.	Pressure exerted by the fingers should be light enough that the pressure does not further aggravate the injury that may be present. At any indication of increased pain, finger pressure should be released immediately. Even if this portion of the examination of the patient reveals that there are not deformities, cuts, and/or bruises, it must not be assumed that no spinal injury exists. In many cases, none of the above symptoms are present, and the patient has suffered serious spinal trauma.
9. Check lower extremities for paralysis by touching the patient's feet and legs and asking if touch is felt. Ask the patient to wiggle toes and then raise legs. Ask the patient to press foot against the performer's hand.	Any touch should be gentle, and if pain arises upon the performance of any of the steps, the patient should be instructed to discontinue that movement. If the patient can perform any of the movements with any degree of limitation, it can be assumed that there is some degree of spinal cord damage; and the patient should be rigidly immobilized. Once it has been determined that paralysis exists in the lower extremities, the performer must not halt examination of the patient. It is necessary to determine, with as much accuracy as possible, where an injury may have occurred. It is therefore necessary to conduct a set of similar procedures on the upper extremities.
10. Check upper extremities for paralysis by touching the patient's palm and asking if touch can be felt. Ask the patient to squeeze the performer's hand and ask the patient to wiggle fingers and raise arms.	If the patient experiences any pain or is unable to perform the upper extremity tests, it must be assumed that there is a strong possibility that spinal cord damage has occurred in the area of the cervical spine. Extreme caution and great care should be exercised in rigid immobilization and smooth transportation.
11. Determine if the patient has a cord injury and its possible location by combing the results of the observations of the patient (e.g., if	When any signs of injury are not clear or if there appears to be contradictory observations, always assume that a neck fracture exists.

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
the patient cannot perform any of the test movements, he/she probably has a cord injury in the area of the neck).	
12. Determine if external hemorrhage is involved in the spinal injury. If hemorrhage is present, dress wound and secure dressing. (See appropriate task.)	
13. Determine if patient's position, injury, and location limits the choice of equipment or procedure for immobilization by observing the position of the patient and the working space around the patient. If the total situation limits the choice of equipment, determine which equipment will not work.	If the patient has a cervical spine injury, the short spine board may be used effectively; however, if the injury is in any other area of the spine, the short spine board is unacceptable. The performer must combine the information concerning position of the patient, nature of injury, and location of injury to select the equipment best suited to immobilize spine under the assessed conditions. The nature of the injury to the spine determines to a great degree which equipment is most useful in the immobilization of the injured area. If the area injured is the thoracic, lumbar, sacral, and/or coccygeal area(s) of the spine, the short spine board is of limited value. If a short spine board is employed, it provides spinal immobilization for little more than the cervical region of the spine.
14. Select best equipment and procedure to immobilize spine by selecting from the equipment and procedures that have been determined to be acceptable under the circumstances.	
15. Determine if cervical spine is deformed to such a degree that it cannot be supported by a cervical collar (i.e., is it at a severe angle and cannot be moved?) (If cervical spine is deformed, go to Task Element #18)	By observing the cervical spine, it is possible to determine if that area of the spine is so deformed that the cervical collar cannot be placed around the patient's neck without causing further injury to the spinal cord.

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
16. Determine if cervical collar is available for use on patient. (If cervical collar is not available, go to Task Element #18)	
17. Maintain traction on spine while cervical collar is placed around patient's neck and securely positioned. (Go to Task Element #20)	If standard cervical collar is not available, it is possible to use an alternate device or material such as a bath towel wrapped snugly around the patient's neck. If an alternate method is used, it is important to be sure that it does not inhibit airway maintenance or carotid arterial circulation.
18. Determine if sandbags or alternate materials are best suited to immobilize patient's cervical spine area since cervical collar is not appropriate under the assessed conditions.	
19. Place sandbags next to and parallel to patient's cervical spine to restrict any movement.	Sandbags are convenient because of their weight and pliability; however, if they are not available, it is possible to use alternate materials which will accomplish nearly the same degree of immobilization (e.g., wet towels may be rolled and placed on either side of patient's neck).
20. Obtain selected piece of equipment. Take all equipment to patient's side. (If equipment selected is the long spine board, go to Task Element #32) (If equipment selected is the orthopaedic stretcher, go to LOOP #2) (If equipment selected is the portable stretcher, go to LOOP #3) (If an alternate method for immobilization has been selected, go to LOOP #4)	Three 9' nylon straps and a chin strap mechanism are usually sufficient to secure an average weight 6' adult patient. Smaller patients may require fewer straps while larger patients and/or combative patient's may require more straps to effect adequate immobilization.
	Assumes the short spine board has been selected, and that the board is a standard 32" wooden short board.

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
21. Determine if it is necessary to adjust the patient's position before the patient may be immobilized with the equipment selected by determining if the patient may be secured to the immobilization device in his/her current position.	In all cases, it is preferred that the patient be immobilized in the position in which discovered. In very rare and unusual cases, it may be necessary to modify the patient's position for some purpose other than medical care, (i.e., it is impossible to extricate an entrapped patient unless his/her body is in a straight line and all extremities are parallel to the line of the body).
22. Determine what adjustment is necessary to permit the patient's spine to be adequately immobilized by assessing the position of the patient, and determining in what way his/her position needs to be modified.	
23. Support patient along the entire length of the spine and legs; maintain traction and slowly adjust the patient's position. If any pain is felt by the patient during the process, return patient to a position which is more comfortable and without pain.	This procedure is never recommended, and it should be used only if there is absolutely no other alternative.
24. Prepare short board for positioning by placing two 9' straps on the board so that the straps are passed through the upper handholes, behind the board and out the lower handholes on the opposite side, with buckles hanging on the front of the board approximately 8" down from the upper handholes.	Assumes that the buckles are considered the stationary end.
25. Position short board behind the patient with Velcro stripping facing away from the back of the patient's head. Manual traction is continued during the entire process to insure further damage is avoided if no gross deformity is present.	The rescuer must exercise great care in positioning the board to insure patient is not jarred or moved. It will also be necessary for the rescuer to plan how the board is to be placed into position. Difficulty will often arise when the short board is used on a

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
	patient in a wrecked automobile. If the patient is leaning on the steering wheel and must be placed in an upright position -- anticipate the patient's future position and place the spine board in the proper location before moving the patient. Do not hurry. Take your time during any immobilization process.
26. The torso is then fixed to the board with two 9' straps. This is done by taking the buckle of the first strap and placing it on the patient's chest. The strap should then pass through the upper handhold, behind the board, out the lower handhold on the opposite side, around the thighs from outside to inside, and finally under and over the thighs to the chest buckle, keeping the strap as close to the patient as possible. Repeat the same process for the second strap.	The straps should be positioned on the board before positioning such that the only thing necessary to do in this step is to position buckle, and position strap around the thigh. If there is injury to the thigh, this would require that the strap be left off the thigh to avoid any further aggravation. In this instance, it would be more logical to connect the straps across without wrapping around the thigh, so that the straps form an "X" on the patient's torso. It will then be necessary to run a strap through the bottom handhold and across the patient's abdomen to further stabilize and secure the board.
27. Tighten torso straps by pulling on each strap simultaneously.	Be sure all slack has been taken off straps. If the patient is not secured tightly to the board, purpose of the short board will be defeated.
28. If the head is in a forward position, it will be necessary to fill the void between the board and the cervical region which exists because of the natural curvature of the spine. This may be done by placing a small half-pillow, rolled towel, or air splint (wrist & hand) behind the neck. (If cervical collar is being used, this air splint is recommended.	As before, if deformity exists, do not apply any pressure on deformed area or protrusions as to avoid further damage to the spine.
29. Secure the head to the board using the chin and forehead strap. Be sure the straps are positioned such that the chin strap is fastened on the Velcro stripping above the head strap on the back of the board.	An alternate method of securing the head is to use a roll of gauze or "kling" and simulate the chin and forehead strap by wrapping the gauze around the head alternating across the chin and the forehead.

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
(If traction has been used, it is at this point when traction may be released.)	
30. If air splint was used to fill the void, inflate splint until firm.	
31. Determine if the procedures have immobilized the spine by observing for tightness of straps and security of any auxiliary devices employed, (e.g., cervical collar). If spine has not been completely immobilized, reevaluate the situation by determining what portion of the procedure or equipment is not sufficient. Correct the defect by the appropriate procedure (e.g., more straps and/or different piece of equipment). (If patient's spine is not immobilized, go to Task Element #14.) (If patient is in a prone position, go to Task Element #35.)	The evaluation of the effectiveness of the immobilization procedures should not cause any additional movement or discomfort to the patient.
	Assumes that the patient is not trapped or confined in an automobile. The following procedures identify basic uses of equipment and are not intended to demonstrate extrication techniques. (For extrication techniques, see task "Extrication.")
32. Determine if it is necessary to adjust the patient's position before patient may be immobilized with the equipment selected by determining if the patient may be secured to the immobilization device in his/her current position.	In all cases, it is preferred that the patient be immobilized in the position in which discovered. In rare and unusual cases, it may be necessary to modify the patient's position for some purpose other than medical care (i.e., it is impossible to extricate an entrapped patient unless his/her body is in a straight line and all extremities are parallel to the line of the body). Patient must be in the prone position.
33. Determine what adjustment is necessary to permit the patient's spine to be adequately immobilized by assessing the position of the	

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
patient, and determining in what way his/her position needs to be modified.	
34. Support patient along the entire length of the spine and legs; maintain traction and slowly adjust the patient's position. If any pain is felt by the patient during the process, return patient to a position which is more comfortable and without pain.	This procedure is never recommended, and it should be used only if there is absolutely no other alternative.
35. Support head, neck, and shoulders of the victim by straddling the head of the victim. If short spine board has not already been used, it will support this area.	
36. Lift head and shoulders only slightly. Then slide long spine board under patient.	All movements must be slow and deliberate to prevent any unnecessary movement which may further damage the spinal cord. An alternate method may be to place the long board in line with the patient's spine and next to the patient's body. While maintaining spinal traction, support the patient along the entire length of the body and rotate the patient away from the surface which is supporting the spine and slide the long board under the patient. Once the device is in position, allow the patient to return to previous position.
37. Place a rolled towel or similar bulk material under the knees, ankles, neck, and small of the back.	
38. Secure patient with straps around chest, pelvis, and lower thigh.	
39. Determine if the procedure has immobilized the spine by observing for tightness of the straps and security of any auxiliary devices employed (e.g., cervical collar). If spine has not been completely immobilized, reevaluate the situation by determining what portion	The evaluation of the effectiveness of the immobilization procedures should not cause any additional movement or discomfort to the patient.

CENTRAL NERVOUS SYSTEM TRAUMA

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
of the procedure or equipment is not sufficient. Correct the defect by the appropriate procedure, (e.g., more straps and/or different piece of equipment). (If patient's spine is not immobilized, go to Task Element #14.)	
40. Determine if all wounds have been treated. (If all wounds have not been treated, go to Task "Multi-Problem Triage.") Module XII	
41. Treat for shock. (See task, "Treatment of Shock.") Module III	
42. Determine if patient is in life-threatening condition. If yes, prepare to transport. (See task, "Transportation.") Module VIII	
43. Determine if all patients have been treated. (If no, go to task, "Multi-Patient Triage.") Module III	
44. Prepare to transport. (See task, "Transportation.") Module VIII	

CENTRAL NERVOUS SYSTEM TRAUMA

LOOP 1

Evaluation of Patient Who Cannot Communicate

ELEMENTS	EXPLANATION
	Assumes that spinal trauma is suspected, but the patient is unable to communicate and assist in the evaluation.
1. Move fingers along spinal column to determine if there are any deformities, hemorrhage or bruises present.	Pressure exerted by the fingers should be light enough so that it does not aggravate any injury present still further. Even if bruises, hemorrhage, or deformities are not present, that does not necessarily indicate that the spinal trauma is not present.
2. Check for paralysis of the lower extremities by jabbing the bottom of the patient's foot lightly with a pointed object. If the spinal cord is still intact, the foot will react with the toes curling down.	
3. Check paralysis of the upper extremities by jabbing the palm of the hand with a pointed object as was done in Element #2. If the cord is not damaged, the hand will pull away with the fingers curling inward. (Go to Task Element #11)	An alternate method is to take the patient's hand and fold the fingers in making a fist. Then squeeze the patient's hand. Quickly release the hand. If there is no spinal cord damage, the hand will respond by the fingers uncurling. If cord damage is present, the fingers will not uncurl. By doing Element #2 and #3, the general location of the damage may be determined. If the hands respond but the feet do not, then the damage is in the lower spine. If both do not respond, the damage is higher on the spinal column, probably in the cervical region.

CENTRAL NERVOUS SYSTEM TRAUMA

LOOP 2

Use of Orthopaedic Stretcher

ELEMENTS	EXPLANATION
1. Determine if it is necessary to adjust the patient's position before patient may be immobilized with the equipment selected by determining if the patient may be secured to the immobilization device in his/her current position.	In all cases, it is preferred that the patient be immobilized in the position in which discovered. In very rare and unusual cases, it may be necessary to modify the patient's position for some purpose other than medical care (i.e., it is impossible to extricate an entrapped patient unless his/her body is in a straight line, and all extremities are parallel to the line of the body).
2. Determine what adjustment is necessary to permit the patient's spine to be adequately immobilized by assessing the position of the patient, and determining in what way his/her position needs to be modified.	
3. Support patient along the entire length of the spine and legs; maintain traction and slowly adjust the patient's position. If any pain is felt by the patient during the process, return patient to a position which is more comfortable and without pain.	This procedure is never recommended, and it should be used only if there is absolutely no other alternative.
4. Unfold orthopaedic-type scoop stretcher and adjust length to fit length of patient by sliding lower end (the end without the Velcro-connected pillow) into the upper end by positioning lock pegs over the length adjustment holes and turning lock pegs to allow them to lock into position.	The stretcher should be adjusted to fit the length of the patient as closely as possible.
5. Remove head support (pillow) by reaching under each side of the stretcher frame and pulling the bottom vinyl flap away from the top piece of the vinyl pillow, separating the Velcro stripping.	
6. Grasp head of stretcher with both hands and depress catch device	The button on the catch device should be depressed before any outward pressure

CENTRAL NERVOUS SYSTEM TRAUMA

LOOP 2 (CONTINUED)

Use of Orthopaedic Stretcher

	ELEMENTS	EXPLANATION
	button while the index finger of the right hand separates both halves of the stretcher.	is exerted in an attempt to separate the two halves of the stretcher.
7.	Repeat Element #3 to separate bottom half of stretcher.	
8.	Place one half of the stretcher on one side of patient and the other half on the opposite side with the space for the pillow at the head of the patient, and the scoop blades pointed toward the patient's spine.	It does not matter if the patient is on the stomach or the back since the scoop stretcher may be used in both cases. However, great care must be exercised in the movement of a patient on his/her stomach to avoid allowing the patient's arms to extend through the bottom of the scoop stretcher.
9.	Place the left half of the stretcher underneath the patient by gently lifting the patient and sliding a section under the patient. Be careful not to pinch the patient with the scoop.	The patient may be lifted with the least effort by having a co-worker on the opposite side reach over the patient and grasp him/her and then rock to allow insertion of the scoops under the patient.
10.	Position right half of stretcher close to patient and connect the two sections at the head of the stretcher by sliding the catch device together.	
11.	Slide the catch device at the other end together in the same manner while a co-worker gently lifts patient. Be careful not to pinch patient with the scoop.	Support the body of the patient in such a manner that the scoop blades may move under the patient and provide support along the entire length of the patient's body.
12.	Slide pillow under stretcher frame with the Velcro stripping facing upward. Wrap support around frame and fasten Velcro.	Do not rely on Velcro to support head when lifting stretcher. Rescuer at the head of the stretcher should always grip head-support and frame simultaneously to insure Velcro will hold.
13.	Secure patient with straps across chest, hips, and lower thighs. (Go to Task Element #39.)	Because of the design of the stretcher, it is not necessary to lift the stretcher and run the strap underneath, but rather to run the strap across the patient twice, looping it around the frame.

CENTRAL NERVOUS SYSTEM TRAUMA

LOOP 3

Use of Portable Stretcher

ELEMENTS	EXPLANATION
	Assumes that portable stretcher is to be used to assist in immobilization of spinal injury. It should be noted that this piece of equipment gives little support to spinal injuries. Assumes that the patient is not trapped or confined in automobile. The following procedures identify basic uses of equipment and are not intended to demonstrate extrication techniques. (For extrication techniques, see task "Extrication.")
1. Determine if it is necessary to adjust the patient's position before patient may be immobilized with the equipment selected by determining if the patient may be secured to the immobilization device in his/her current position.	In all cases, it is preferred that the patient be immobilized in the position in which discovered. In very rare and unusual cases, it may be necessary to modify the patient's position for some purpose other than medical care (i.e., it is impossible to extricate an entrapped patient unless his/her body is in a straight line, and all extremities are parallel to the line of the body.) Patient must be in a prone position.
2. Determine what adjustment is necessary to permit the patient's spine to be adequately immobilized by assessing the position of the patient, and determining in what way his/her position needs to be modified.	
3. Support patient along the entire length of the spine and legs; maintain traction and slowly adjust the patient's position. If any pain is felt by the patient during the process, return patient to a position which is more comfortable and without pain.	This procedure is never recommended, and it should be used only if there is absolutely no other alternative.

CENTRAL NERVOUS SYSTEM TRAUMA

LOOP 3 (CONTINUED)

Use of Portable Stretcher

ELEMENTS	EXPLANATION
4. Support head, neck, and shoulders of victim by straddling the head of the victim. If short spine board has already been used, it will support this area.	
5. Lift head and shoulders only slightly. Then, slide long board under patient.	All movements must be slow and deliberate to prevent any unnecessary movement which may further damage the spinal cord. An alternate method may be to place a piece of equipment in line with the patient's spine and next to the patient's body. While maintaining spinal traction, support patient along the entire length of the body and rotate patient away from the surface which is supporting the spine and slide the piece of equipment under the patient. Once device is in position, allow patient to return to previous position.
6. Place a rolled towel or similar bulk material under the knees, ankles, neck, and small of the back.	
7. Secure patient with straps around chest, pelvis, and lower thighs. (Go to Task Element #39.)	

CENTRAL NERVOUS SYSTEM TRAUMA

LOOP 4

Alternate Materials

ELEMENTS	EXPLANATION
	Assumes that all equipment previously described is unavailable. (It should be noted that this task does not define methods for lifting and carrying patients. Because of the similarity of spinal trauma, immobilization and lifting and moving patients, defined in the task "Transportation of Patient," that task should be reviewed).
1. Determine which alternate materials are acceptable for use by observing what materials are available and assessing the situation.	Any material which is flat and rigid sufficiently to remain rigid with a patient strapped to it, is acceptable. It is not advisable to select a material or device which is so heavy or bulky that it becomes difficult to control the movement of the patient.
2. Gather alternate device (e.g., door, wood plank, ladder) and the necessary straps or equivalent to secure patient to device and immobilize the patient's spine. (Go to Task Element #32)	If straps are available, they may be used; however, if no straps are available, any material may be used as long as the patient is secured and immobilized without further injury.

7

MODULE VI

ORTHOPAEDIC INJURIES

ORTHOPAEDIC INJURIES

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the students will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80 percent of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a diagram of the human body (or subsection diagrams) and a list of labels:

   A. Maxilla
   B. Mandible
   C. Vertebrae
   D. Cervical spine
   E. Thoracic spine
   F. Lumbar spine
   G. Sacral spine
   H. Coccygeal spine
   I. Clavicle
   J. Scapula
   K. Sternum
   L. Ribs
   M. Humerus
   N. Radius
   O. Ulna
   P. Carpals
   Q. Metacarpals
   R. Phalanges
   S. Pelvis
   T. Femur
   U. Tibia
   V. Fibula
   W. Patella
   X. Ankle
   Y. Tarsals
   Z. Metatarsals

   The student will be able to place an identifier on the diagram(s) indicating the position of the bones on the diagram.

2. Given the following classifications of bones:

   A. Long bone
   B. Short bone
   C. Flat bone
   D. Irregular bone

   The student will be able to recognize the classification for each one of a list of bones.

3. Given a list of joints and the following classifications:

   A. Ball and socket
   B. Hinge
   C. Limited motion
   D. Fused

   The student will be able to identify the classification which applies to each joint.

4. Given a description of the following:

   A. Periosteum
   B. Marrow
   C. Medullary canal
   D. Compact bone
   E. Cancellous bone

   The student will be able to recognize the label associated with each description from a list of labels.

5. Given descriptions of possible functions which the bones serve, the student will be able to recognize the four major functions.

6. Given a description of the following:

   A. Capsule
   B. Synovial membrane
   C. Cartilage
   D. Ligaments
   E. Tendons

   The student will be able to recognize the label associated with each description from a list of labels.

7. Given a list of muscles, the student will be able to identify those muscles which are:

   A. Voluntary
   B. Involuntary
   C. Cardiac

8. Given a description or picture of the following types of fractures and classifications of fractures:

   A. Transverse
   B. Oblique
   C. Greenstick
   D. Spiral
   E. Comminuted
   F. Impacted
   G. Open
   H. Closed

   The student will be able to recognize the label associated with each description or picture from a list of labels.

9. The student will be able to recall and list the seven symptoms of a fracture.

10. Given a description of the following:

   A. Strain
   B. Sprain
   C. Dislocation

   The student will be able to recognize the label associated with each description from a list of labels.

11. Given a series of situations describing fractures, strains, sprains, or dislocations, the student will be able to recognize the type of injury involved from the list of symptoms given in each situation.

12. Given a series of descriptions of situations and the knowledge of the type and location of injury from the following types and locations:

    A. Type
    - (1) closed fracture
    - (2) open fracture
    - (3) dislocation
    - (4) sprain
    - (5) strain
    - (6) flailed chest

    B. Location
    - (1) upper arm
    - (2) lower arm
    - (3) hand
    - (4) finger
    - (5) upper leg
    - (6) lower leg
    - (7) foot
    - (8) ankle
    - (9) wrist
    - (10) elbow
    - (11) knee
    - (12) ribs
    - (13) clavical
    - (14) shoulder
    - (15) hip
    - (16) skull
    - (17) facial bones

    The student will be able to choose the appropriate equipment to use from a list of available equipment and will be able to recognize the appropriate treatment steps from a list of treatment steps.

13. The student will be able to recognize the description of floating ribs from a group of descriptions.

14. The student will be able to identify the number of fixed and floating ribs.

15. The student will be able to recognize the major reason for application of traction from a group of reasons.

16. The student will be able to recognize the four major reasons for splinting from a group of reasons.

ORTHOPAEDIC INJURIES

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given an air splint and a fellow student posing as a victim, the student will be able to correctly perform the steps necessary to immobilize a suspected fracture. The student will successfully immobilize fractures of each of the following:

   A. Upper arm
   B. Lower arm
   C. Wrist or hand
   D. Lower leg
   E. Ankle or foot

   The student must demonstrate the correct procedures for each of the above listed fractures to complete the objective.

2. Given a padded board splint, pillow, kling or ace bandage, tape, and a fellow student posing as a victim, the student will be able to correctly perform the steps necessary to immobilize a suspected fracture. The student must successfully immobilize fractures of each of the following:

   A. Upper arm
   B. Lower arm
   C. Wrist or hand
   D. Lower leg
   E. Ankle or foot
   F. Upper leg
   G. Hip

   The student must demonstrate the correct procedures for each of the above listed fractures to complete the objective.

3. Given a full back board, gauze, kling or ace bandage, tape and cravats, and a student posing as a victim, the student will be able to correctly perform the steps necessary to immobilize a suspected fracture of the hip.

4. Given a Hare Traction Splint, a fellow student to assist, and a student posing as a victim, the student will be able to correctly apply traction and immobilize a suspected fracture of the femur.

5. Given a tongue depressor, roller gauze, tape, and fellow student posing as a victim, the student will be able to correctly immobilize a suspected fracture of the finger or thumb.

6. Given cravats, gauze, kling or ace bandages, tape, and a fellow student posing as a victim, the student will be able to correctly perform the steps necessary to immobilize a suspected fracture of the shoulder and/or clavicle. The student will successfully immobilize fractures of one of each:

   A. Shoulder
   B. Clavicle

   The student must demonstrate the correct procedures for each of the above listed fractures to complete the objective.

7. Given an air splint, padded arm board, gauze, kling and/or ace bandages, tape, and a student posing as a victim with suspected dislocation of a joint, the student will perform the steps necessary to immobilize a dislocation. The student will successfully immobilize a dislocation of a joint in each of the following situations:

   A. Elbow (arm straight)
   B. Elbow (arm at angle)
   C. Knee (leg straight)
   D. Knee (leg at angle)
   E. Ankle
   F. Hip

   The student must demonstrate the correct procedures for each of the above listed fractures to complete the objective.

8. Given gauze dressing, gauze bandages, tape, sandbag, and a student posing as a victim, the student will be able to correctly perform the steps necessary to immobilize a suspected fracture of the ribs.

9. Given gauze dressing, gauze bandages, tape, padded board splint, ace or kling bandages, and a student posing as a victim, the student will be able to correctly perform the steps necessary to dress and immobilize an open fracture of an extremity.

ORTHOPAEDIC INJURIES

INSTRUCTORS ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will:

1. Distribute the student activity sheet and handouts during the class period prior to beginning this module. Assignments are:

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition.
   Pages: Page 23: Supplies for Immobilization of Fractures
   Page 137: Inspect the Chest for Fractures
   Page 139: Palpate the Pelvis for Fractures
   Page 289: Facial Fractures
   Pages 295-296: Nasal Fractures
   Pages 315-340: Injuries to Extremities
   Pages 123-144: Review: Secondary Survey

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 135-147.

2. This module is planned for 9 hours. The lecture will involve the use of slides, filmstrips and 16 mm film. The content of the lecture is specified in the Module Outline.

   A. Slides are from the EMERGENCY CARE SERIES, by Robert J. Brady Company, Unit 7.

   B. Filmstrips are from the EMERGENCY MEDICAL CARE, by Trainex:
   (1) Skeletal and Muscular Systems, Program No. 325
   (2) Fractures and Splinting, Program No. 393.

   C. Film 16 mm by U.S. Department of the Interior, MESA, "Fractures and Dislocations".

   D. References:

   (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons), 1975, 2nd Edition. Pages: 119-123 (review), 129-177.
   (2) Physical Assessment of Long Bone Fractures, by George T. Anast, M.D., Emergency Product News, January/February 1977. Pages: 61-63.
   (3) Advanced First Aid and Emergency Care, The American National Red Cross, (1973). Chapter 13, Pages: 155-201.
   (4) Human Function and Structure, by Dorothy S. Luciano, Ph.D., Arthur Vandes, M.D., and James H. Sherman, Ph.D.; McGraw-Hill, (1978).
   (5) Basic Life Support Skills Manual, by Charles Phillips, M.D., Robert J. Brady Company, (1977). Pages: 113-126.
   (6) Emergency Management of the Maxillofacial-Injured Patient, by James M. Landeen, M.D., Emergency, June 1978. Pages: 42-44.

E. Alternative Learning Resources:

(1) Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.
   (1) The Muscular and Skeletal Systems, Unit 9.
   (2) Basics of Extremity Splinting, Unit 10.
   (3) Using Traction Splints, Unit 11.

F. Handouts: No. 11 Skeletal System
No. 12 Muscular System
For student use during anatomy portion of lecture.

G. Review Instructional Materials and Equipment

3. Prepare notes and conduct the demonstration session. The demonstrations consist of:

A. Procedure for immobilization of the shoulder or clavicle using a sling and swathe.

B. Procedures for immobilization of an open or closed fracture of an extremity or dislocation or fracture of a joint, using an air splint, padded board splint, full backboard or Hare traction splint where applicable.

C. Procedures for immobilization of fractured ribs.

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

5. After the practice session and lecture, the instructor will evaluate the student's ability to perform each of the skills. The student's skills can be evaluated separately or collectively. In addition, each student will be required to take a written examination. After completing the evaluations, the instructor will advise the student on his/her progress and suggest alternative instruction if appropriate.

ORTHOPAEDIC INJURIES

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Skeleton
Chalk and Chalkboard
Slide Projector
Screen
Filmstrip/cassette Machine

Medical

Casualty Simulation Kit
Air Splints (one set of 6) Tubular/Zipper
Board Splints (one set of 6)
Hare Traction Splints (two)
Padded Tongue Blade (twenty)
Gauze Roller Bandages (twenty)
Elastic Roller Bandages (twenty)
Triangular Bandages (twenty)
Jump Kit with Equipment (three)
Blankets (ten)
Sandbag (three)
Pillows (six)

MATERIAL

Task Sheet
Skill Development Checklist
Handout No. 11
Handout No. 12
Skill and Knowledge Objectives
Skill Evaluation Sheets
Written Examination

AUDIOVISUALS

Slides: Emergency Care Series, Unit 7
Filmstrips: Emergency Medical Care
Program No. 325
Program No. 393
Film: 16 mm MECA "Fractures and Dislocations"

ORTHOPAEDIC INJURIES

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material assigned prior to Module Lecture.

2. Reading Assignment:

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, 2nd Edition.
   Pages 23: Supplies for Immobilization of Fractures
   Page 137: Inspect the Chest for Fractures
   Page 139: Palpate the Pelvis for Fractures
   Page 289: Facial Fractures
   Pages 295-296: Nasal Fractures
   Pages 315-340: Injuries to Extremities
   Pages 123-144: Review Secondary Survey

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 135-147.

3. Handouts: No. 11 Skeletal System Anatomy
   No. 12 Muscular System Anatomy

4. Student Skill record for Orthopaedic Injuries. The student shall be responsible for instructor's signature when he/she satisfactorily completes each skill.

5. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

6. When instructor has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

7. Alternative Learning Resources:

   A. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.
   (1) The Muscular and Skeletal Systems, Unit 9.
   (2) Basics of Extremity Splinting, Unit 10.
   (3) Using Traction Splints, Unit 11.

8. Student Skill Development Checklist begins on next page.

ORTHOPAEDIC INJURIES

8. Before leaving this module the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTOR'S INITIAL
A. Dressing open fracture			
B. Demonstrate & recognize: 1. Sling			
2. Swathe			
3. Air Splints			
a. Tubular			
b. Zipper			
4. Padded board splint			
5. Hare Traction Splint			
C. Immobilization of a fracture of: 1. Upper arm			
2. Lower arm (forearm)			
3. Hand/Wrist			
4. Upper leg (thigh) or hip			
5. Lower leg			
6. Foot/Ankle - Air Splint pillow			
7. Hip with full backboard			
8. Finger using tongue depressor			
9. Shoulder			
10. Clavicle			
11. Fractured Ribs			
12. Hare traction of joint			

ORTHOPAEDIC INJURIES

THE SKELETAL SYSTEM

HANDOUT # 11

I. Terms and definitions

A. Bone markings--Openings, hollows, depressions, projection or processes which serve a specific purpose
B. Condyle--Knob or rounded piece at the end of a bone that helps make a joint
C. Crest--Narrow edge or ridge on a bone
D. Foramen--Hole or opening for passage of blood vessels, nerves and ligaments
E. Fossa--Depression or hollow, usually to accommodate some other nearby structure
F. Head--Rounded portion beyond the narrow necklike portion of a long bone
G. Sinus--Chamber or cavity in a bone
H. Process--Small rounded bone projection
I. Meatus--Tube shaped opening
J. Appendage--Anything attached to a larger part, as an arm, leg or tail; a dependent part
K. Appendicular--Partaining to a limb or an appendage
L. Medullary cavity--Central space in a long bone
M. Axial--Pertaining to the central part; the skeleton of the head and trunk
N. Osteology--Study of bones
O. Articulation Point-where bones are joined together; a joint
P. Cartilage--White elastic substance attached to bone surfaces at the joints
Q. Fontanel--In the fetus and newborn, the membranous site of the future union of two or more bones
R. Trochanter--Very large process on a bone
S. Tuberosity--Large roughened projection
T. Ligament--Rough, fibrous band binding together bones or supporting internal organs
U. Suture--Line junction of cranial bones

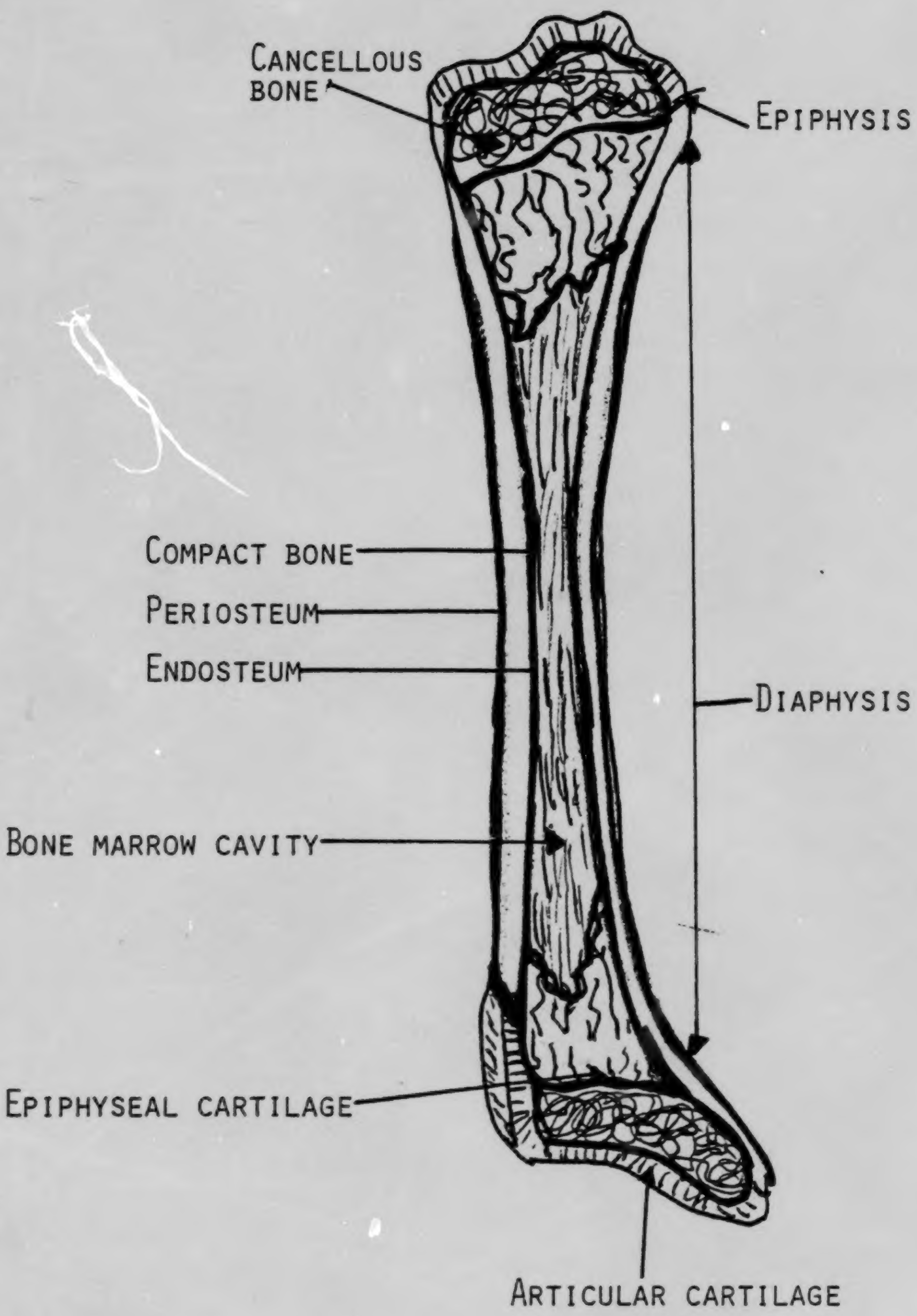
II. Skeletal system functions

A. Provide shape and support
B. Assist in body movement
C. Protect vital organs
D. Manufacture red blood cells, platelets, and some white cells
E. Store mineral such as calcium and phosphorus

ORTHOPAEDIC INJURIES

STRUCTURE OF A LONG BONE

HANDOUT # 11


CANCELLOUS BONE
EPIPHYSIS
COMPACT BONE
PERIOSTEUM
ENDOSTEUM
DIAPHYSIS
BONE MARROW CAVITY
EPIPHYSEAL CARTILAGE
ARTICULAR CARTILAGE

HANDOUT # 11: (Continued)

III. Composition of bones

A. Inorganic salts such as calcium phosphate
B. Organic materials such as bone cells, blood vessels, nerves, and cartilage
C. Water

IV. Structures of a bone

A. Epiphysis--End of long bone
B. Diaphysis--Center of long bone
C. Periosteum--Exterior covering of bones except in joints
D. Articular cartilage--Covering of bones in joint areas
E. Compact bone--Dense, hard layer of bone tissue just beneath the periosteum
F. Cancellous bone--A layer of spongy bone found inside the compact bone, especially in the epiphysis; contains red marrow which produces red blood cells
G. Medullary cavity--Bone marrow cavity
H. Endosteum--Lining of the medullary cavity
I. Epiphyseal cartilage--A layer of cartilage between the epiphysis and the diaphysis where the growth takes place

V. Types of bones

A. Long--length is greater than their breadth
    1. Humerus
    2. Radius
    3. Ulna
    4. Femus
    5. Tibia
    6. Fibula

B. Short--Length and breadth nearly equal
    1. Skull
    2. Sternum
    3. Ribs
    4. Shoulder blade

C. Flat--Two layers of compact bone separated by a narrow space
    1. Skull
    2. Sternum
    3. Ribs
    4. Shoulder blade

D. Irregular--Mixed shapes that do not fit in the first three groups
    1. Face
    2. Spinal
    3. Hip

E. Sesamoid--Develop in tendons--Patella

HANDOUT # 11; (Continued)

VI. Bone markings

- A. Condyle
- B. Crest
- C. Foramen
- D. Fossa
- E. Head
- F. Sinus
- G. Process
- H. Tuberosity
- I. Meatus
- J. Trochanter

VII. Divisions of the skeleton

- A. Axial skeleton--The bony framework of the head and the trunk. This includes eighty bones.
  - 1. Skull
  - 2. Vertebrae
  - 3. Ribs and sternum

- B. Appendicular skeleton--The framework of the extremities. This includes 126 bones.
  - 1. Upper extremities
  - 2. Lower extremities

VIII. Classifications of joints according to amount of movement

- A. Immovable with no joint cavities (synarthrosis)
  - 1. Skull sutures
  - 2. Epiphyseal cartilage of the long bones

- B. Slightly movable (amphiarthrosis)
  - 1. Vertebral discs
  - 2. Symphysis pubis
  - 3. Sacroiliac joints

- C. Freely movable (diarthrosis; also called synovial joints)
  - 1. Shoulder joints
  - 2. Elbow, wrist and finger joints
  - 3. Knee and ankle joints

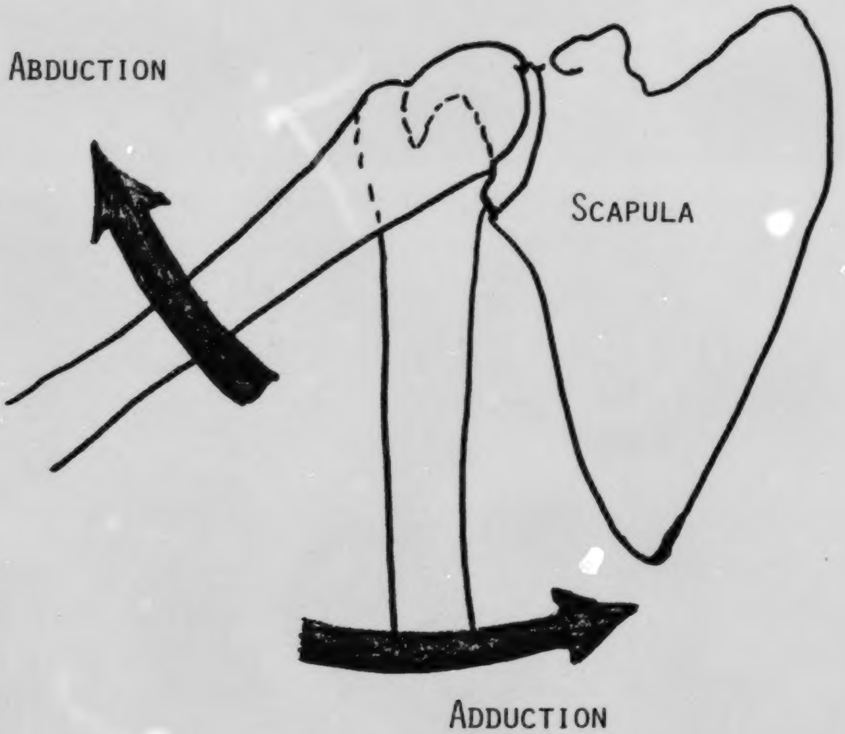
IX. Types offreely movable joints

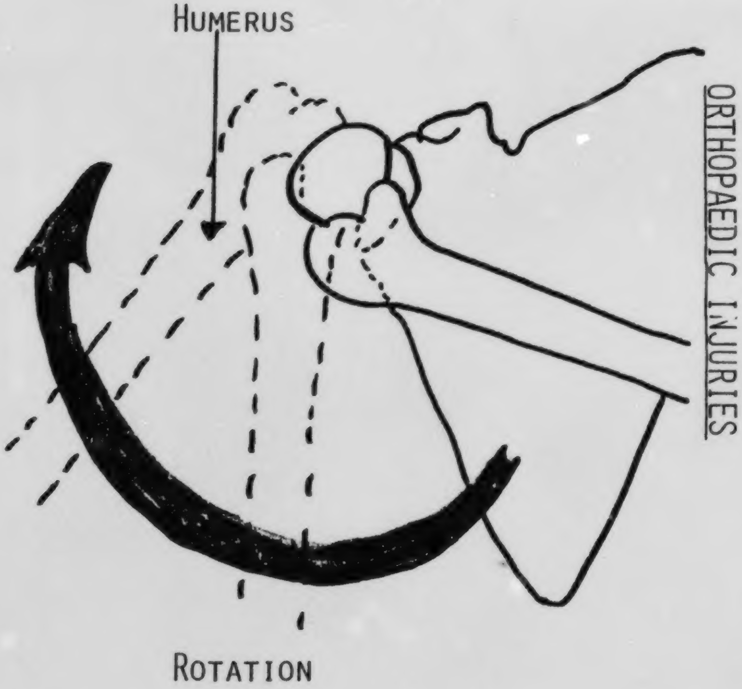
- A. Ball and socket joints
  - 1. The head of one bone fits into a cup-like socket of another bone
  - 2. Movement takes place in all planes plus rotation
    - (a). Example: Hip and shoulder joints

HANDOUT # 11

BALL AND SOCKET JOINT

(SHOULDER)


ABDUCTION
SCAPULA
ADDUCTION

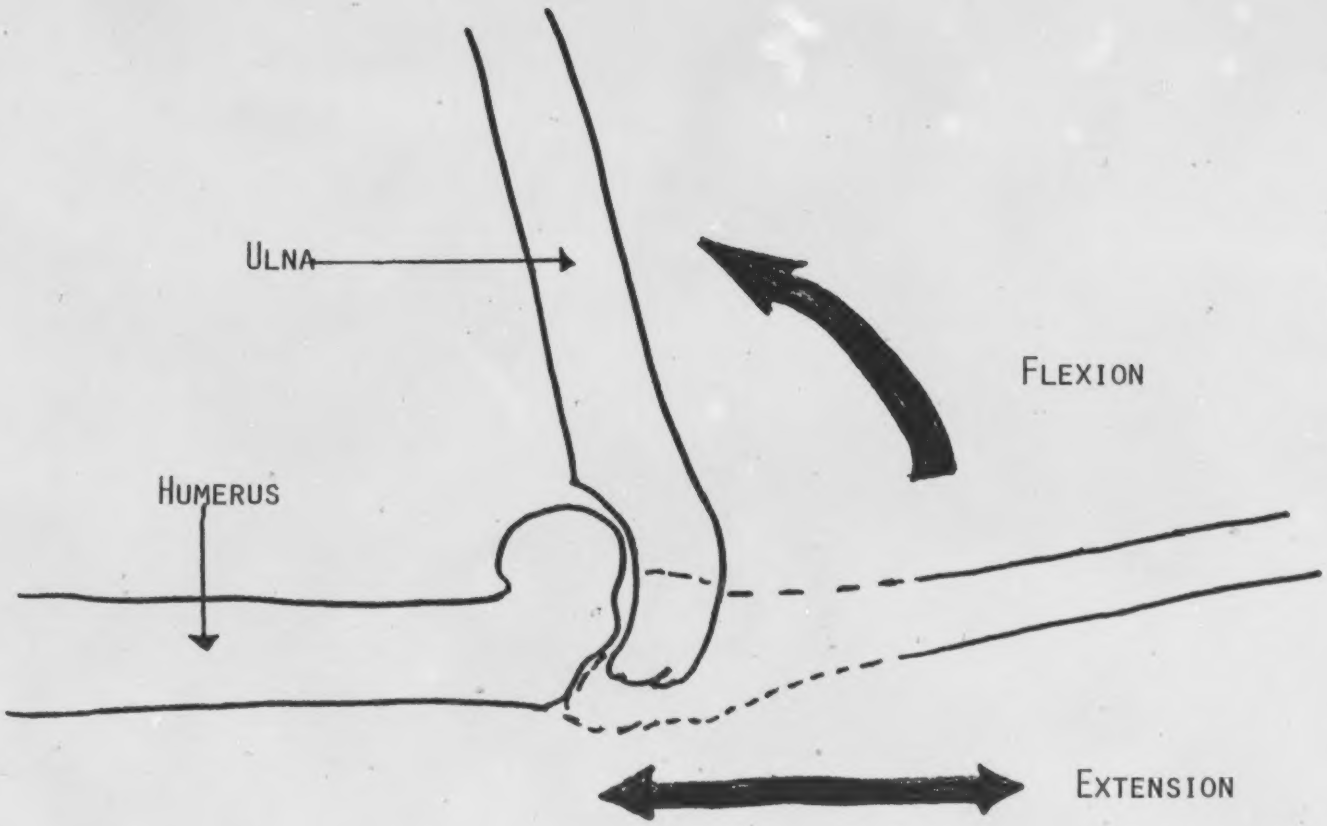

HUMERUS
ROTATION

HANDOUT # 11

ORTHOPAEDIC INJURIES

HINGE JOINT

(ELBOW)

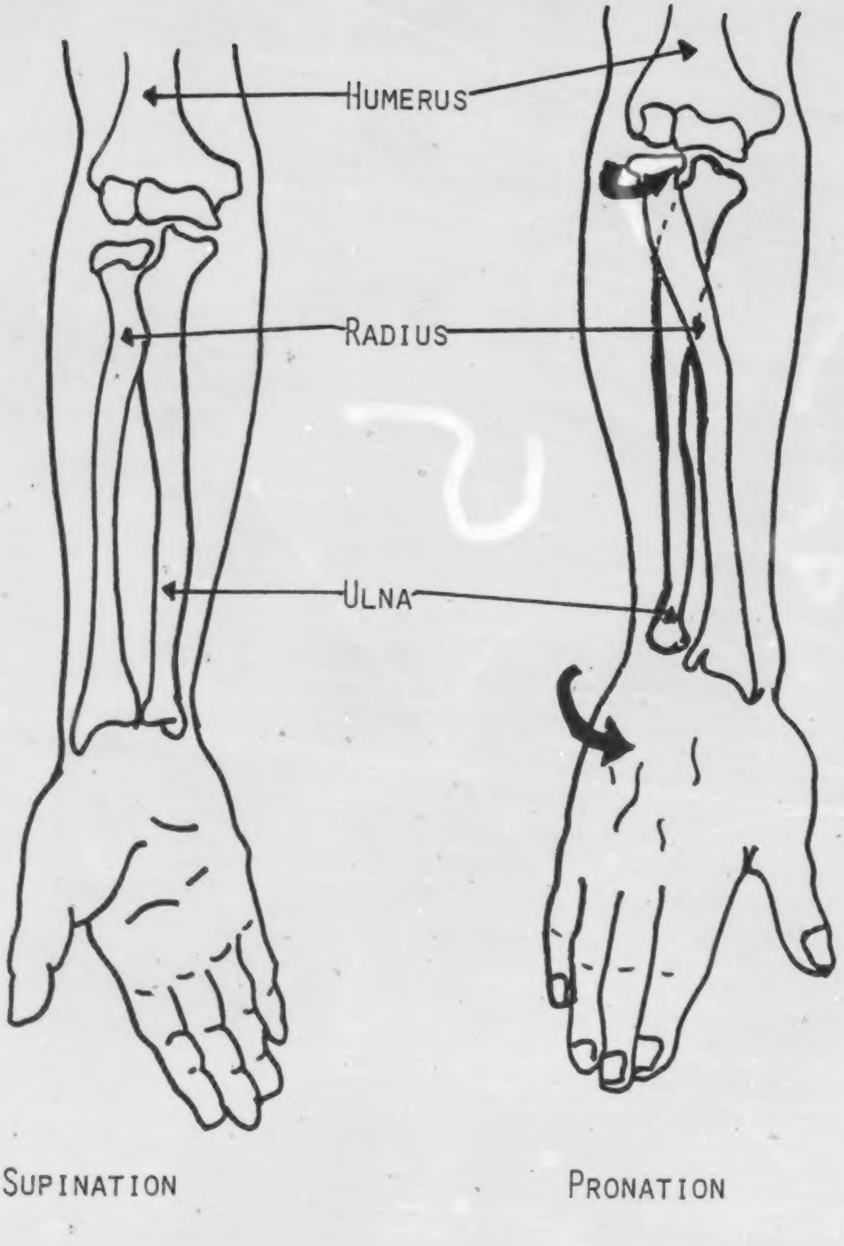

ULNA
HUMERUS
FLEXION
EXTENSION

ORTHOPAEDIC INJURIES

PIVOT JOINT

HANDOUT # 11

(ELBOW)

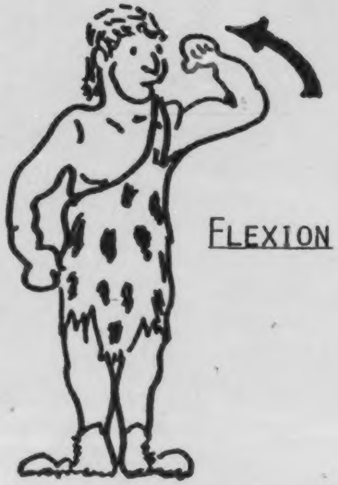

HUMERUS
RADIUS
ULNA

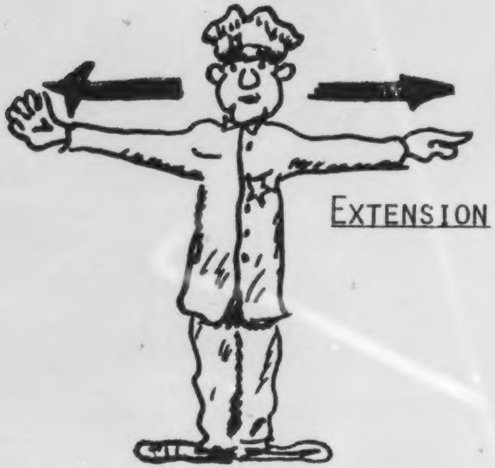
SUPINATION PRONATION

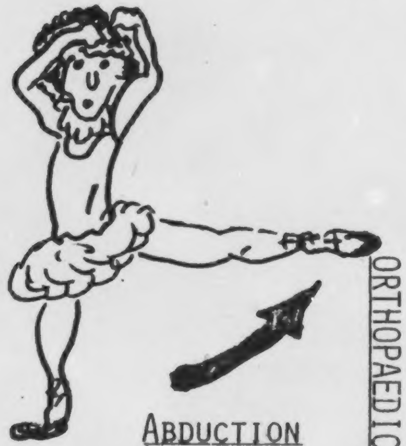
HANDOUT # 11

ORTHOPAEDIC INJURIES

TYPES OF JOINT MOVEMENT


FLEXION


EXTENSION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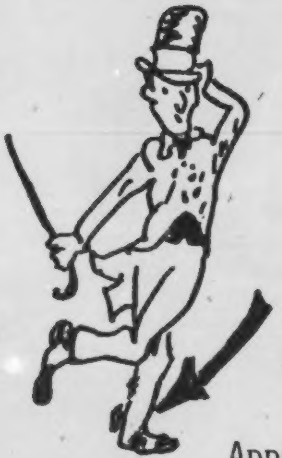
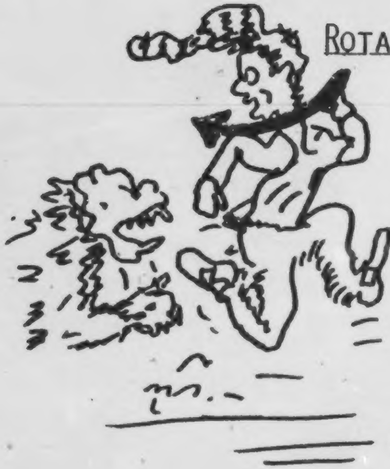
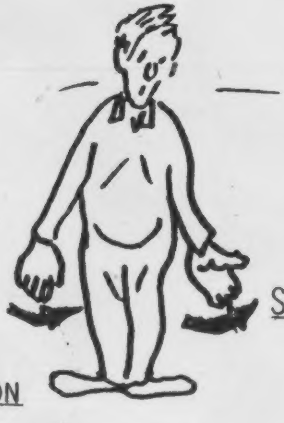

ADDUCTION


ROTATION


PRONATION

SUPINATION

HANDOUT # 11: (Continued)

B. Hinge joints
  1. A spool-shaped surface fits into a concave surface
  2. Movement consists of flexion and extension and is limited by structure of the joint and by ligaments

C. Pivot joints
  1. An arch-shaped surface surrounds a peg-like pivot
  2. Only movement is rotation

D. Gliding joints
  1. One bony surface glides upon another
  2. No angular or rotary movement
    (a). Example: Intervertebral joints; small bones of wrist and ankle

X. Types of movement in joints

A. Flexion
B. Extension
C. Abduction
D. Adduction
E. Rotation
F. Supination
G. Pronation

XI. The bones of the skeletal system

A. Axial skeleton
  1. Cranium
  2. Cervical vertebrae
  3. Thoracic vertebrae
  4. Lumbar vertebrae
  5. Sacrum
  6. Coccyx
  7. Sternum
  8. Xiphoid process
  9. Ribs

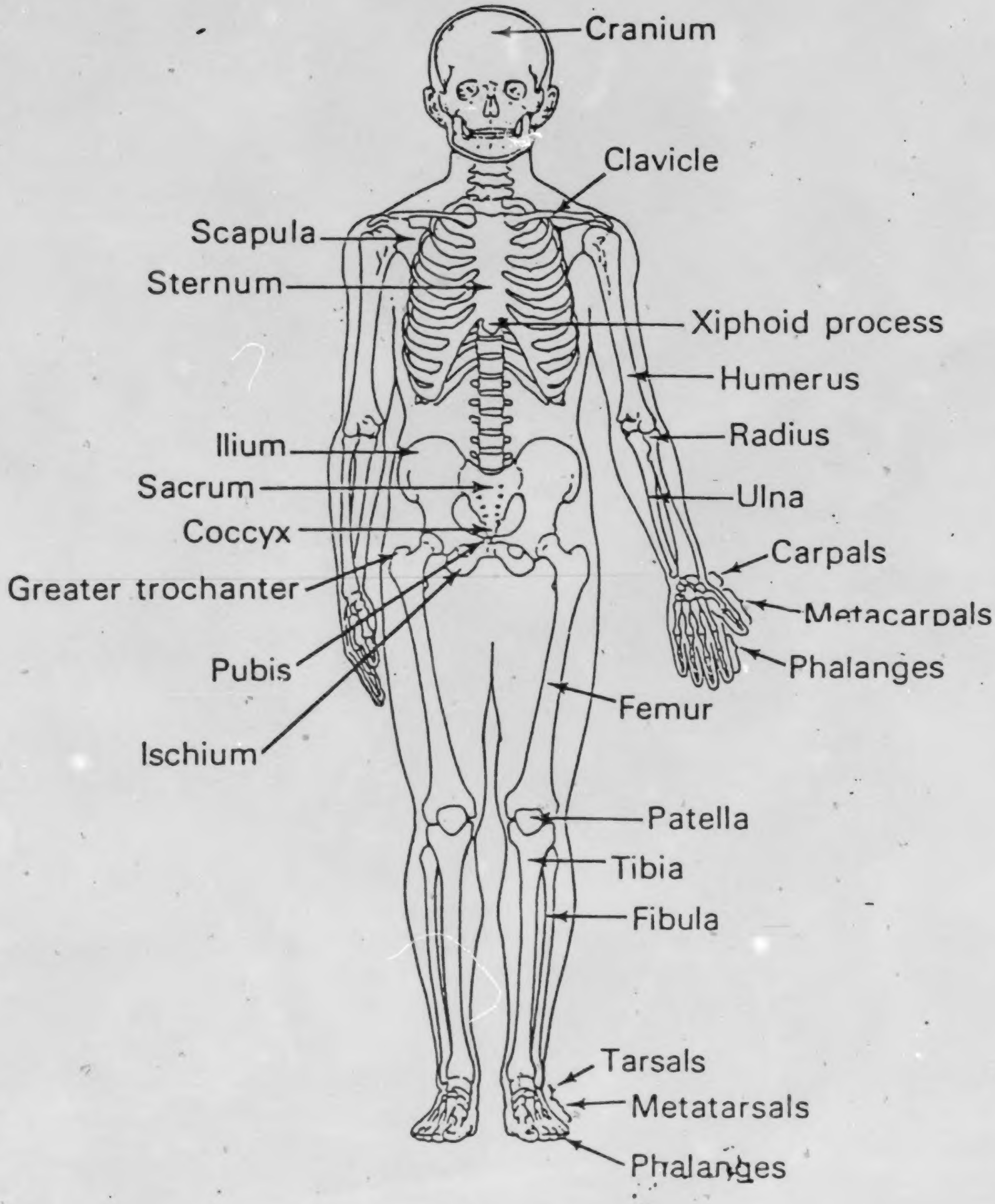
B. Appendicular skeleton--Upper extremities

  1. Clavicle
  2. Scapula
  3. Humerus
  4. Ulna
  5. Radius
  6. Carpus
  7. Metacarpals
  8. Phalanges

ORTHOPAEDIC INJURIES

ANTERIOR VIEW OF THE SKELETON

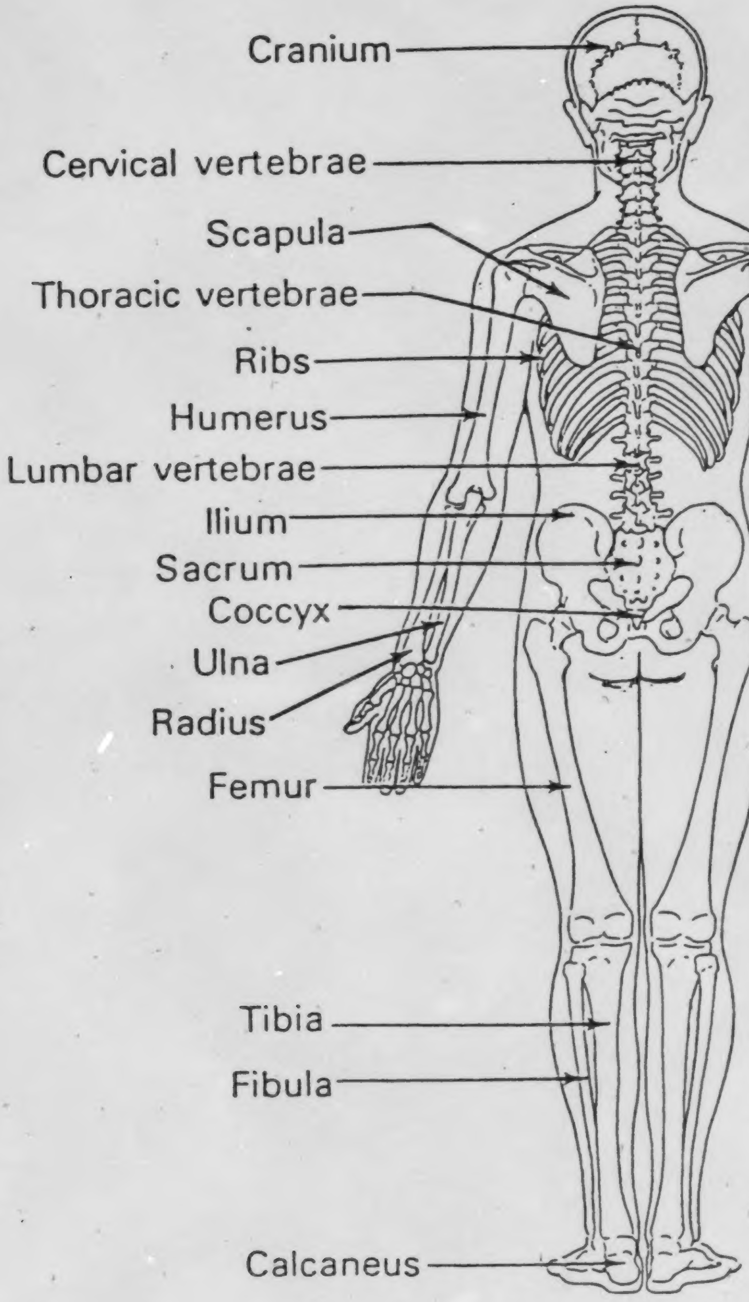
HANDOUT # 11


Cranium
Clavicle
Scapula
Sternum
Xiphoid process
Humerus
Radius
Ilium
Sacrum
Ulna
Coccyx
Carpals
Greater trochanter
Metacarpals
Phalanges
Pubis
Femur
Ischium
Patella
Tibia
Fibula
Tarsals
Metatarsals
Phalanges

ORTHOPAEDIC INJURIES

POSTERIOR VIEW OF THE SKELETON

HANDOUT # 11


Cranium
Cervical vertebrae
Scapula
Thoracic vertebrae
Ribs
Humerus
Lumbar vertebrae
Ilium
Sacrum
Coccyx
Ulna
Radius
Femur
Tibia
Fibula
Calcaneus

HANDOUT # 11: (Continued)

C. Appendicular skeleton--Lower extremities

  1. Ilium
  2. Ischium
  3. Pubis
  4. Femur

XII. Differences in female and male pelvis

A. The cavity of a female pelvis is shallower and broader
B. The inlet and outlet of a female pelvis is wider
C. The pubic arch of a female pelvis is wider
D. The bones of a female pelvis are lighter in weight
E. The female coccyx is more flexible

ORTHOPAEDIC INJURIES

MUSCULAR SYSTEM

HANDOUT # 12

I. Terms and definitions

- A. Myology--Study of muscles
- B. Skeletal muscles--Bundles of striated muscle tissue surrounded by connective tissue
- C. Tendon--Narrow strip of dense connective tissue that attaches the muscle to a bone
- D. Aponsurosis--Broad, sheet-like piece of dense connective tissue that attaches a muscle to a bone or another muscle
- E. Contractility--Ability of a muscle to shorten thicken when given the proper stimulus
- F. Elasticity--Ability of the muscle to return to its original length after stretching
- G. Extensibility--Ability of a muscle to stretch
- H. Irritability--Ability of a muscle to respond to stimulation
- I. Tonus--Slight tension in the muscle
- J. Flaccid--Lacking tone in a muscle
- K. Muscle fatigue--Loss of power to contract after prolonged periods of muscle contraction
- L. Atrophy--Wasting away (degeneration) of a muscle
- M. Prime mover--Muscle primarily responsible for a specific action
- N. Antagonist--Muscle which counteracts with a prime mover
- O. Intramuscular--Within a muscle

II. Parts of a muscle

- A. Origin
  1. Less movable end of a muscle
  2. Attached to the less movable end of a bone
  3. Usually, attachment of origin is the end of the muscle closer to the trunk
- B. Body or belly--Main part of the muscle
- C. Insertion--Attachment on the more moveable bone or the end farther away from the trunk

III. Muscle attachments

- A. Tendon
- B. Aponeurosis

IV. Major functions of the muscles

- A. Movement
  1. Locomation--Moving from one place to another
  2. Small movements such as adjustment of pupil to light

HANDOUT # 12: (continued)

3. Internal movements--Pushing blood through blood vessels; pulling air into the lungs and forcing it out.

B. Heat and energy resulting from a complicated chemical reaction

C. Posture and body mechanics
   1. Muscles function with the bones, joints, nerves and brain to maintain balance and posture
   2. Muscle to bone and muscle to muscle attachments provide a system of checks and balances to allow the body to run, lift, sit, stand, walk, and bend

D. Protection of internal organs

V. Characteristics of muscle tissue

A. Contractibility
   1. When a muscle shortens, it exerts pull
   2. Muscles work in pairs as they contract and relax
   3. A prime mover contracts as an antagonist relaxes:
      (a). Example: Biceps brachii, a prime mover, contracts to flex the forearm as the triceps brachii, the antagonist, relazes: to extend the arm, the triceps brachii contracts and the biceps relaxes

B. Elasticity

C. Extensibility

D. Irritability

E. Tonus--Present at all times even when muscle is resting; a state of readiness to act more easily and quickly when needed
   1. Continued, active use of a muscle causes it to increase in size
   2. Muscular atrophy may occur through lack of use or when nerve supply is damaged

VI. Types of Muscle action

A. Abductors--Move away from a part
B. Adductors--Move toward a part or to the midline
C. Levators--Lift a part
D. Depressors--Lower a part
E. Flexors--Bend a joint
F. Extensors--Straighten a joint
G. Rotators--Revolve a part on its axis
H. Sphincters--Ring-like muscles that close body openings

VII. Principal skeletal muscles and their location

A. Sternocleidomastoid--Neck
B. Deltoid--Shoulder

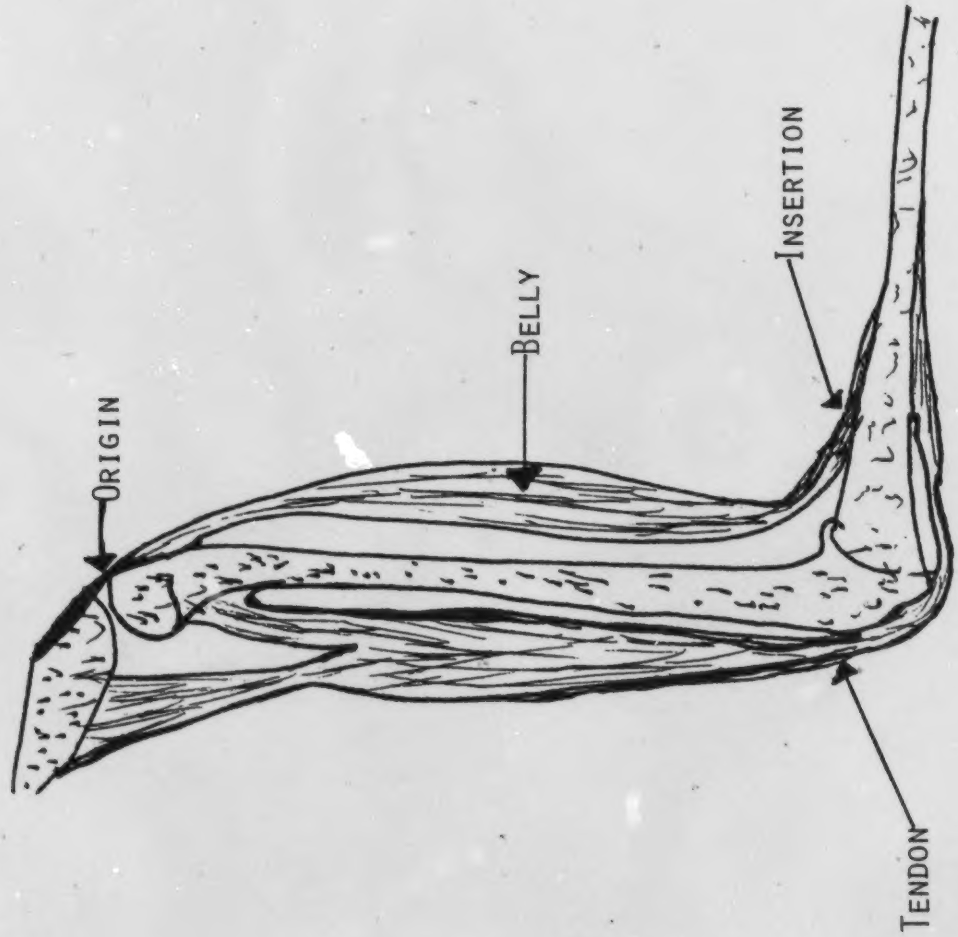
HANDOUT # 12: (continued)

C. Biceps brachii--Upper arm
D. Triceps brachii--Upper arm
E. Trapezius--Back
F. Latissimus dorsi--Back
G. Pectoralis major--Chest
H. External oblique--Abdominal wall
I. Rectus abdominis--Abdominal wall
J. Gluteus maximus--Buttocks
K. Gluteus medius--Buttocks
L. Quadriceps femoris--Thigh
M. Biceps femoris--Thigh
O. Gastrocnemius--Lower leg
P. Vastus lateralis--Lateral thigh
Q. Orbicularis oculi--Around eye
R. Orbicularis oris--Around mouth
S. Achilles tendon--Back of heel

ORTHOPAEDIC INJURIES

TYPICAL MUSCLE

HANDOUT # 12


ORIGIN
BELLY
INSERTION
TENDON

ORTHOPAEDIC INJURIES

LECTURE TOPICS	REFERENCES
I. Skeletal Bones	Handout #11
A. Head	
1. Cranium - skull, protects the brain	
2. Facial bones - gives shape to the face	
3. Maxilla - upper jaw	
4. Mandible - lower jaw - forms mouth	
B. Spinal column - vertebrae	
1. Function	
a. protects spinal cord	
b. supports head and trunk	
2. Components	
a. vertebrae - 33	
b. cartilage - discs, cushions vertebrae and limits range of motion	
3. Regions	
a. cervical spine	
b. thoracic spine	
c. lumbar spine	
d. sacral spine	
e. coccygeal spine	
4. Injuries	
a. high incidence for cervical and lumbar spine due to lack of support	
b. low incidence for thoracic spine due to support of the ribs	
c. low incidence for the sacrum due to support of the pelvis	
C. Thorax - rib cage	
1. Twelve pairs of ribs	
2. Upper seven pairs joined in front by the sternum (breastbone)	

LECTURE TOPICS	REFERENCES
3. Next three pairs joined by cartilage attached to the sternum 4. Last two pair have no front attachment (floating ribs) 5. Clavicles - collarbones, support the sternum and help form the shoulder 6. Scapula - shoulder blades form part of the shoulder joint D. Upper extremities 1. Humerus - arm 2. Ulna and radius - forearm 3. Carpals - wrist 4. Metacarpals - hand 5. Phalanges - fingers E. Pelvis - hip bones F. Lower extremities 1. Femur - thigh bone 2. Patella - knee cap 3. Tibia - shin bone 4. Fibula - forms outer part of ankle 5. Tarsals - ankle 6. Metatarsals - foot 7. Phalanges - toes G. Bones in general 1. Classification a. long, e.g., humerus b. short, e.g., phalanges c. flat, e.g., sternum d. irregular, e.g., vertebrae	

LECTURE TOPICS	REFERENCES

2. Composition
    a. periosteum - outer layer of tough membrane through which the blood vessels go
    b. compact bone - middle layer of hard bone which provides the support
    c. medullary canal - cavity which holds the yellow bone marrow which manufactures red blood cells
3. Function
    a. support
    b. shape
    c. protection
    d. produce red blood corpuscles
    e. cause movement (locomotion) with the aid of joints and muscles

II. Joints (Articulations)

A. Classification
1. Ball and socket
    a. wide range of motion in all directions
    b. examples are shoulder and hip joints
2. Hinge joints
    a. wide range of motion in only two directions
    b. examples are elbow and knee joints
3. Limited motion joints
    a. examples are the joints of the spinal column
4. Fused joints
    a. allow no motion
    b. examples are the bones of the cranium fused together

ORTHOPAEDIC INJURIES

LECTURE TOPICS	REFERENCES
B. Composition	
1. Capsule - outside layer of tough, connective tissue	
2. Synovial membrane - lines the joint capsule and secretes a lubricating fluid	
3. Cartilage - lining the bone ends, it cushions them and absorbs shock	
4. Ligaments - bands of string fibrous tissue which attaches two bone ends composing a joint	
III. Muscles	
A. Anatomy	Handout #12
1. Voluntary - can be consciously controlled	
2. Involuntary - cannot be consciously controlled	
3. Cardiac - muscle of the heart - similar to involuntary muscle	
B. Function	
1. Can only exert force by contracting	
2. Controlled by nerves	
3. Moves bones	
a. origin - point where the muscle attaches to a stationary bone	
b. insertion - point where the muscle attaches to a movable bone	
4. Tendons attach muscles to bones	
IV. Fractures	
A. Causes	
1. Direct violence	

ORTHOPAEDIC INJURIES

LECTURE TOPICS	REFERENCES
2. Indirect violence	
3. Twisting force	
B. Types	
1. Transverse	
2. Oblique	
3. Spiral	
4. Greenstick	
5. Comminuted	
6. Impacted	
7. Open	
8. Closed	
C. Survey	
1. Procedure	
2. Symptoms	
a. deformity	
b. patient information	
c. pain or tenderness	
d. grating sensation	
e. swelling and discoloration	
f. loss of use	
g. exposed bone ends	
D. Management	
1. Re-alignment	
2. Traction - to prevent further displacement of bone ends due to muscle spasms	
3. Splinting	
a. prevent further injury	
b. relieve pain	
4. Procedure	Task I
a. general technique	Elements 1-6

ORTHOPAEDIC INJURIES

LECTURE TOPICS	REFERENCES
b. problem areas	
(1) skull or face	LOOP 1
(2) chest	LOOP 2
c. equipment selection and use	
(1) board splints	Elements 8-12 Task I
(2) air splints	LOOP 4
(3) pillow	LOOP 7
(4) sling and swathe	LOOP 6
(5) Hare traction splint	LOOP 5
E. Fracture areas - specific solutions	
1. Humerus	
2. Forearm and wrist	LOOP 3
3. Hand	
4. Ribs	
5. Hip	
6. Femur and lower leg	
7. Ankle and foot	LOOP 3
8. Elbow, knee	LOOP 3
V. Dislocation	
A. Definition - displacement of a bone end forming a joint	
B. Survey	
1. Procedure	
2. Symptoms	
a. deformity	
b. loss of movement	
c. pain	
C. Management	
1. No re-alignment, immobilize in the position found	
2. Procedure	

ORTHOPAEDIC INJURIES

LECTURE TOPICS	REFERENCES
D. Complications 1. Paralysis - pinched nerve 2. Cyanosis - pinched blood vessel Show Film and Critique "Fractures and Dislocations" VI. Sprains A. Definition - damage to ligaments B. Survey 1. Procedure 2. Symptoms a. no deformity b. swelling c. pain on passive movement VII. Strains A. Definition - stretching of the muscles around the joint B. Survey 1. Procedure 2. Symptoms a. no deformity b. swelling c. little pain on passive movement d. pain on active movement DEMONSTRATION #1 DEMONSTRATION #2 DEMONSTRATION #3	

ORTHOPAEDIC INJURIES

DEMONSTRATION #1: IMMOBILIZATION OF SUSPECTED FRACTURE OR DISLOCATION OF SHOULDER OR CLAVICLE

Using a student volunteer, demonstrate the following skills:

1. Review the steps of a secondary survey. Emphasize the survey for trauma-related incidents. Point out the signs and symptoms of a fracture or dislocation of the shoulder or clavicle.

2. Determine if injury is open fracture. Demonstrate dressing of an open fracture.

3. Position victim's arm in comfortable position with cravat underneath.

4. Bring cravat ends around neck and tie in knot on side of neck, opposite injury.

5. Make swathe and circle body with it.

6. Secure swathe with knot or pins to avoid movement.

NOTE: This demonstration is placed first since the application of sling and swathe are required skills for Demonstration #2: Immobilization of a Suspected Fracture or Dislocation of an Extremity.

DEMONSTRATION #2: IMMOBILIZATION OF SUSPECTED FRACTURE OR DISLOCATION OF AN EXTREMITY

Using a student volunteer as a victim and a student to assist where necessary, demonstrate the following skills:

1. Review the steps of a secondary survey. Emphasize the survey for trauma-related incidents. Point out the signs and symptoms of a fracture or dislocation.

2. Determine if the injury is an open fracture. Demonstrate dressing of the wound. Point out that rescuer should not:

   A. Move fracture
   B. Apply too much pressure to wound

3. Demonstrate the application of traction to fractured extremity. Point out:

   A. Reasons for traction
   B. What to do if resistance is felt when straightening an angulated fracture
   C. Required amount of traction

DEMONSTRATION #2 (CONTINUED):

4. Determine the equipment required to immobilize the suspected fracture. Equipment to be demonstrated is as follows:

   A. Air splint (various sizes)
   B. Padded board splint (various sizes)
   C. Hare Traction splint

The following subsections of the demonstration should be completed for each piece of equipment where it may be appropriately used. A student volunteer will be used to assist in the demonstration.

5. Demonstrate immobilization of lower arm (forearm).

   A. Using air splint (tubular type) point out:
      (1) gathering of splint on arm
      (2) position of hands of both rescuers to apply traction and put on splint
      (3) how to put on and inflate splint
      (4) how to determine if splint is inflated properly
      (5) need to assure circulation and how this is assured
   B. Using air splint (zipper type) point out:
      (1) placement of arm in splint
      (2) inability to maintain traction while applying splint
      (3) how to zip up splint
      (4) how to inflate splint
      (5) how to determine if splint is inflated properly
      (6) need to assure circulation and how this is assured
   C. Using padded board splint, point out:
      (1) position of hands to apply traction
      (2) placement of padding on splint to assure even contact
      (3) how to bind arm to splint using gauze or elastic roller bandage
      (4) need to assure circulation and how this is assured
   D. Application of sling and reason for its use.

6. Demonstrate immobilization of wrist, hand, or finger.

   A. Using air splint (tubular or zipper type), point out:
      (1) difference in application of a tubular and partial zipper type with the application of a full zipper type which can be opened flat
      (2) use of roll bandage to maintain curve of hand
      (3) problem of over-inflation and monitoring circulation
   B. Using padded board splint, point out:
      (1) use of roll bandage to maintain curve of hand
      (2) binding of hand or wrist to padded board splint
      (3) problem of binding too tight and monitoring circulation
   C. Using tongue depressor for finger, point out:
      (1) need for depressor to extend to at least middle of palm of hand
      (2) care required not to shut off circulation
   D. Application of sling.

DEMONSTRATION #2 (CONTINUED):

7. Demonstrate immobilization of upper arm.

A. Using padded board splint, point out:
(1) placement of board splint
(2) care needed in binding so as not to put unnecessary pressure on fracture
(3) use of sling and how sling should support arm at wrist
(4) necessity to bind arm to body with swathe.
B. Using sling and swathe only, point out:
(1) only use if board splint not available

8. Demonstrate immobilization of lower leg.

A. Using tubular air splint without foot, point out:
(1) gathering of splint on leg
(2) position of hands of both rescuers to apply traction and put on splint
(3) how to put on and inflate splint
(4) how to determine if splint is inflated properly
(5) need to assure circulation and how this is assured
B. Using zipper air splint with or without foot, point out:
(1) placement of leg in splint
(2) inability to maintain traction
(3) how to zip up splint and inflate
(4) how to determine if splint is inflated properly
(5) need to assure circulation and how this is assured
(6) problem encountered when using foot attachment
C. Using padded board splint, point out:
(1) position of hands to apply traction
(2) placement of padding on splint to assure even contact
(3) how to bind leg to splint using gauze or elastic roller bandage
(4) need to assure circulation and how this is assured

9. Demonstrate immobilization of upper leg.

A. Using long padded board splint, point out:
(1) length of splint required (armpit to foot)
(2) how to apply traction while splinting
(3) how to tie board splint to leg and body
(4) need to assure adequate circulation
(5) how the same procedure (without traction) can be used to immobilize a fractured hip
B. Using full backboard, point out:
(1) how to apply traction while splinting
(2) how to place blanket between legs
(3) how to secure legs together
(4) how to secure victim to backboard
(5) need to assure adequate circulation
(6) how the same procedure (without traction) can be used to immobilize a fractured hip

DEMONSTRATION #2 (CONTINUED):

C. Using Hare Traction Splint, point out:
  (1) how to apply manual traction while splinting
  (2) how to adjust splint
  (3) how to position splint
  (4) how to apply T straps and attach traction strap
  (5) how to tighten winch to obtain traction
  (6) how to determine if proper amount of traction has been applied
  (7) how to secure extremity to splint
  (8) need to assure adequate circulation
  (9) use of this splint for lower leg fracture

10. Demonstrate immobilization of ankle or foot using pillows. Point out:

  A. Necessity to limit movement while applying pillow
  B. How to mold pillow around foot or ankle
  C. How to secure the pillow with cravats or bandages
  D. Need to assure adequate circulation

11. Demonstrate immobilization of fracture or dislocation of joint. Point out:

  A. Necessity to splint in position found
  B. Need to improvise splinting procedure since variable position
  C. Demonstrate splinting using board splint to following:
    (1) elbow, arm straight
    (2) elbow, arm at angle
    (3) knee, leg at angle

12. Point out necessity to continuously monitor patient's circulation in affected area and what to do if circulation appears to be absent.

13. Point out that it may be necessary to treat patient for shock.

DEMONSTRATION #3: FRACTURES OF THE RIBS

Using a student volunteer, demonstrate the following skills:

1. Review secondary survey. Emphasize the survey steps related to trauma incidents. Point out:

  A. Signs and symptoms of a fracture in the chest cavity
  B. Need to examine for sucking chest wound and what to do about such a wound
  C. The signs of tension pneumothorax and what should be done
  D. The signs of a flailed chest and the problems related with this

2. Review steps for treatment of sucking chest wound.

3. Place sandbag on chest if flailed chest seems to be present.

4. Tape pad to chest as an alternate method.

DEMONSTRATION #3 (CONTINUED):

5. Tape patient's arm over chest as another method to immobilize.

6. Place patient on injured side.

ORTHOPAEDIC INJURIES

PRACTICE SESSION

INTRODUCTION

After the lecture and demonstrations, students should be given the opportunity to practice their skills. The practice session can be conducted in one of several ways:

1. Students can be given the skill evaluation sheets as a job aid or to guide their practice, or they can use their notes taken during the lecture and demonstration. Students should be informed as to what materials and job aids they will be permitted to use.

2. If assistant instructors are available, they can be assigned to groups of students to ensure that the students understand the skill and procedures. If assistant instructors are used, the instructor should train and evaluate the assistant instructors on their ability to perform the required skills prior to the practical exercise.

3. Depending upon the number of students and available equipment, the students should be separated into small groups. Each group can be assigned a skill to practice covering all skill objectives, or all groups can practice the same skill at the same time.

4. Students in the group should be asked to help other students if assistant instructors are not available. Often times, students can communicate with other students in a more efficient manner than the instructor.

During the practice session, the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills. However, practice time should not exceed three hours.

2. Should assist any and all students during their practice to:

   A. Correct any incorrect procedures, point out errors
   B. Provide "hints" on ways to recall the correct procedures; e.g., immobilization of joint above and below fracture or error avoidance behavior.

3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedures with them --repeating the demonstrations.

4. Should be careful not to occupy too much of the students' time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

The students have the following responsibilities:

1. To practice skills until they feel comfortable with the procedures.
2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

ORTHOPAEDIC INJURIES

PRACTICE SESSION #1

Equipment

1. Jump kit with equipment
2. Gauze roller bandages
3. Elastic roller bandages
4. Triangular bandages
5. Board splints
6. Roll tape
7. Gauze bandages (4" x 4" and 4" x 8")
8. Simulaid of open fracture

Skills to be practiced

1. Secondary survey of a victim of a trauma-related incident
2. Immobilization of a fracture of:
    (a) upper arm
    (b) lower arm
    (c) hand or wrist
    (d) lower leg
    (e) upper leg or hip
3. Dress and immobilize an open wound
4. Review treatment for shock

PRACTICE SESSION #2

Equipment

1. Jump kit with equipment
2. Elastic roller bandages
3. Triangular bandages
4. Air splints - 6 sizes
    (a) tubular type
    (b) zipper type
5. Gauze bandages (4" x 4" and 4" x 8")
6. Roll tape
7. Simulaid of open fracture

Skills to be practiced

1. Secondary survey of a victim of a trauma-related incident
2. Immobilization of a fracture of:
    (a) upper arm
    (b) lower arm
    (c) hand or wrist
    (d) lower leg
    (e) foot or ankle
3. Dress and immobilize an open wound.
4. Review treatment for shock.

ORTHOPAEDIC INJURIES

PRACTICE SESSION #3

Equipment

1. Jump kit with equipment
2. Gauze roller bandages
3. Elastic roller bandages
4. Full backboard
5. Pillow
6. Tongue depressor splint
7. Roll tape

Skills to be practiced

1. Secondary survey of a victim of a trauma-related incident
2. Immobilization of a fracture of:
   (a) hip using full backboard
   (b) foot or ankle using pillow
   (c) finger using tongue depressor
   (d) shoulder or clavicle using sling or swathe.
3. Review treatment for shock.

PRACTICE SESSION #4

Equipment

1. Jump kit with equipment
2. Hare Traction splint
3. Elastic roller bandage
4. Sandbag
5. Triangular bandages
6. Roll tape

Skills to be practiced

1. Secondary survey of a victim of a trauma-related incident
2. Immobilization of a fracture of:
   (a) upper leg using Hare Traction splint
   (b) lower leg using Hare Traction splint
   (c) fractured ribs
3. Review treatment for shock

ORTHOPAEDIC INJURIES

Student's Name____________________________

Passed_________________Failed____________

SKILL EVALUATION #1 - IMMOBILIZATION OF SUSPECTED FRACTURE OR DISLOCATION OF SHOULDER OR CLAVICLE

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow victim, with the assistance of another fellow student, the following procedures to the satisfaction of the instructor.

_____A. Perform the steps of the secondary survey for a trauma-related incident.

_____B. Relate signs and symptoms of a fracture.

_____C. Position victim

  _____minimize movement

  _____proper position

_____D. Apply cravat

  _____minimize movement

  _____proper position

  _____secure properly

_____E. Apply swathe

  _____minimize movement

  _____proper position

  _____secure properly

  _____fracture area immobilized

ORTHOPAEDIC INJURIES

Student's Name______________________________

Passed_________________Failed_______________

SKILL EVALUATION #2 - IMMOBILIZATION OF SUSPECTED FRACTURE OF AN EXTREMITY USING PADDED BOARD SPLINT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student, with the assistance of another fellow student, the following procedures to the satisfaction of the instructor.

_____A. Perform the steps of the secondary survey for a trauma-related incident.

_____B. Relate the signs and symptoms of a fracture.

_____C. Dress an open fracture (if present).

_____D. Select proper equipment to use.

_____E. Apply manual traction to fracture area.

_____F. Apply board splint

  _____minimize movement

  _____apply properly

  _____pad where needed

_____G. Bind and secure splint

  _____minimize movement

  _____bind properly

  _____fracture is immobilized

  _____check for adequate circulation

_____H. Apply sling and swathe if arm, hand, or wrist is being treated.

Area selected for Evaluation:

_____Lower arm or lower leg

_____Upper arm

_____Upper leg or hip

_____Hand, wrist, or foot

ORTHOPAEDIC INJURIES

Student's Name_______________________________

Passed________________Failed______________

SKILL EVALUATION #3 - IMMOBILIZATION OF SUSPECTED FRACTURE OF AN EXTREMITY USING AN AIR SPLINT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student, with the assistance of another fellow student, the following procedure to the satisfaction of the instructor.

_____A. Perform the steps of the secondary survey for a trauma-related incident.

_____B. Relate the signs and symptoms of a fracture.

_____C. Dress an open fracture.

_____D. Select proper equipment to use.

_____E. Apply manual traction to fracture area.

_____F. Apply splint

  _____minimize movement

  _____apply properly

_____G. Inflate splint

  _____minimize movement

  _____fracture is immobilized

  _____check for adequate circulation

_____H. Apply sling and swathe if arm, hand, or wrist is being treated.

Areas for Evaluation:	Tubular	Zipper
Lower arm or lower leg	_______	______
Hand or wrist	_______	______

ORTHOPAEDIC INJURIES

Student's Name______________________________

Passed_________________ Failed______________

SKILL EVALUATION #4 - IMMOBILIZATION OF SUSPECTED FRACTURE OF FEMUR USING HARE TRACTION SPLINT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student, with the assistance of another fellow student, the following procedure to the satisfaction of the instructor.

_____A. Perform the steps of the secondary survey for a trauma-related incident.

_____B. Relate the signs and symptoms of a fracture.

_____C. Dress an open fracture (if present)

_____D. Select proper equipment to use.

_____E. Apply manual traction to fracture area.

_____F. Adjust and apply splint

    _____minimize movement

    _____attach straps for traction

    _____apply traction

_____G. Bind and secure splint

    _____minimize movement

    _____bind properly

    _____fracture is immobilized

    _____check for adequate circulation

ORTHOPAEDIC INJURIES

Student's Name____________________________

Passed______________Failed______________

SKILL EVALUATION #5 - IMMOBILIZATION OF SUSPECTED FRACTURE OF THE FOOT USING A PILLOW

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student, with the assistance of another fellow student, the following procedure to the satisfaction of the instructor.

_____A. Perform the steps of the secondary survey for a trauma-related incident.

_____B. Relate the signs and symptoms of a fracture.

_____C. Dress an open fracture.

_____D. Select proper equipment to use.

_____E. Use pillow to immobilize

  _____minimize movement

  _____apply properly

_____F. Bind and secure pillow

  _____minimize movement

  _____bind properly

  _____fracture is immobilized

  _____check for adequate circulation

ORTHOPAEDIC INJURIES

Student's Name____________________________

Passed_______________Failed_____________

SKILL EVALUATION #6 - IMMOBILIZATION OF SUSPECTED DISLOCATION OR FRACTURE OF A JOINT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student, with the assistance of another fellow student, the following procedure to the satisfaction of the instructor.

_____A. Perform the steps of the secondary survey for a trauma-related incident.

_____B. Relate the signs and symptoms of a fracture or dislocation.

_____C. Select proper equipment to use.

_____D. Apply splint

    _____minimize movement

    _____apply properly

    _____pad where needed

_____E. Bind and secure splint

    _____minimize movement

    _____bind properly

    _____fracture is immobilized

    _____check for adequate circulation

_____F. Apply sling and swathe if arm, hand, or wrist.

Areas for Evaluation:	Straight Position	Bent
Knee or Elbow	_______	_________

ORTHOPAEDIC INJURIES

TASK I

ELEMENTS	EXPLANATION
	Assumes that the rescuer has examined the victim and has determined that there is evidence of a fracture because of the presence of one or more of the following symptoms:
	A. deformity B. tenderness C. grating or crepitus D. swelling and discoloration E. loss of use F. exposed fragments
	Assumes treatment of the possible fracture is now a priority, and the following equipment is available:
	A. assorted air splints B. padded board splints or similar material C. hare traction splint D. gauze dressings E. triangular bandages F. pillow G. tongue blade H. sandbags I. elastic bandages J. cold packs
	(It should be noted that for purposes of treatment, strains and sprains will be treated the same as a fracture or dislocation of a joint.)
1. Determines specific location of injury. If necessary, cut clothing with scissors to expose area.	Assumes that two rescuers are available or that a bystander can be used to assist, since attempting immobilization with only one rescuer risks further damage to the victim.
2. Determine if injury is an open fracture.	
3. If open injury, place dressing over area of wound and apply only enough pressure to hold dressing in place. (Do not move area of fracture more than is necessary.)	Pressure applied should not be so great as to further complicate the fracture area beneath the surface wound. If blood comes through wounds, apply more gauze.

ORTHOPAEDIC INJURIES

TASK I (CONTINUED)

<table>
<tr><th>ELEMENTS</th><th>EXPLANATION</th></tr>
<tr><td></td><td>Assumes that the padded board splints or similar materials (e.g., umbrella, rolled newspaper) have been selected as the equipment to be used.</td></tr>
<tr><td>4. Determine if the fracture is angulated.</td><td></td></tr>
<tr><td>5. If fracture is angulated, it will be necessary to straighten angulation by gripping above and below fracture sites, and applying a steady pull (traction) and then gently straightening the angulation. If abnormal resistance is felt when attempting to straighten an angulation, splint it in its angulated position.
(Go to LOOP 3, Element 4.)</td><td>By applying traction, tension caused by the muscles is removed from the fractured bone.</td></tr>
<tr><td>6. If fracture is not angulated, it will still be necessary to apply traction in the manner previously described.</td><td></td></tr>
<tr><td>7. Determine equipment that is appropriate for injury based upon:
A. position of patient
B. nature of fracture
C. location of fracture
(If equipment chosen is air splint, LOOP 4)
(If equipment chosen is hare traction, LOOP 5)
(If equipment chosen is sling and swathe, LOOP 6)
(If equipment chosen is pillow, LOOP 7)</td><td>Equipment may be selected using the following guide:
<table>
<tr><th>Injured Area</th><th>Equipment</th></tr>
<tr><td>Upper extremities</td><td>Air splints, Board splints</td></tr>
<tr><td>Lower extremities</td><td>Air splints, Board splints</td></tr>
<tr><td>Shoulder, Clavicle</td><td>Traction splint</td></tr>
<tr><td>Foot, Ankle</td><td>Sling & Swathe</td></tr>
<tr><td></td><td>Air splint, pillow</td></tr>
</table></td></tr>
<tr><td>8. Have an assistant place the padded board splint next to the fractured extremity.</td><td>The splint should be sufficient in size to immobilize the fracture site and the adjacent joints above and below the fractured site.</td></tr>
<tr><td>9. Place padding in any area which might not fit snugly against the</td><td>If it is the hand which is involved, place a rolled ace bandage in the palm</td></tr>
</table>

ORTHOPAEDIC INJURIES

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
splint to assure even pressure and contact.	so that the hand will be splinted in a natural curved position.
10. Bind splint to extremity using roller gauze kling, or ace bandage. Leave phalanges exposed to evaluate circulation.	Be sure binding is not so tight it will impair circulation.
11. If lower extremity is involved, secure both legs together for added support with cravats. (Upper extremity may be secured to body using sling and swathe, LOOP 6)	If no other method is available, the lower extremity may be used as a splint for the other injured extremity.
12. Determine if the procedures have immobilized the injury by observing for tightness of binding and security of devices employed. If fracture is not immobilized, re-evaluate the situation by determining what portion of procedure or equipment is not efficient. (If fracture is not immobilized, go to Task Element #6.)	The evaluation of the effectiveness of the immobilization procedures should not cause any additional movement or discomfort to the patient.
13. Determine if all wounds have been treated. (If all wounds have not been treated, go to Task "Multi-Problem Triage." Module XII)	
14. Treat for shock. (See Task "Treatment of Shock.") Module III	
15. Determine if patient is in life-threatening condition. If yes, prepare to transport. (See Task, "Transportation.") Module VIII	
16. Determine if all patients have been treated. (If no, go to Task, "Multi-Patient Triage.") Module XII	
17. Prepare to transport. (See Task, "Transportation.") Module VIII	

ORTHOPAEDIC INJURIES

LOOP 1

Fracture Involving Face & Skull

ELEMENTS	EXPLANATION
1. Check for presence of cervical spine injury. (If spinal trauma is indicated and has not yet been treated, go to Task "Spinal Trauma") Module V	Spinal trauma should always be suspected if trauma to face or skull is present.
2. Determine if hemorrhage is present. If hemorrhage is present, control by placing sterile dressing over wound. Apply no pressure. (See Task, "Soft Tissue Injury.") Module IV	
3. Examine patient to see if blood or cerebrospinal fluid is present in ears, nose, and mouth.	The rescuer should be careful not to confuse a sign of head injury with a simple nosebleed, or lacerated ear lobe.
4. Monitor patient's level of consciousness. If patient is conscious, periodically check horizontal nystagmus.	If brain damage is present, the patient's level of consciousness may vary greatly.
5. Maintain patient's airway. (See Task, "Airway Maintenance and Resuscitation.") (Go to Task Element #13, Module II)	Facial injuries often lead to airway maintenance problems and as a result, this is the major concern. Little can be done by the rescuer to immobilize any fracture of facial bones. Care in handling of the patient is desirable to eliminate unnecessary movement of the fractured area.

ORTHOPAEDIC INJURIES

LOOP 2

Fractures Involving Chest

ELEMENTS	EXPLANATION
1. Examine for external puncture of thoracic cavity (i.e., sucking chest wound). (If puncture is present, go to Task "Soft Tissue Injury.") Module IV	
2. Determine extent of rib fracture by examining for area of swelling, deformity, or pain upon movement.	
3. Immobilize fractures by taping bulk dressing, sandbag, or patient's arm over injured area.	
4. If chest is flailed, transport victim on affected side.	
5. Monitor patient for respiration and signs of cyanosis. (If respiration ceases, go to Task, "Airway Maintenance and Resuscitation.") (Go to Task Element #12.) Module II	Because of thoracic trauma, respiration may not be efficient enough to supply the required oxygen. Tension pneumothorax is a possibility if a fractured rib has penetrated the lung. Nothing can be done by the rescuer, and the patient should be transported as quickly as possible. Tension pneumothorax is indicated by a steady decline in the patient's condition for no apparent reason.

ORTHOPAEDIC INJURIES

LOOP 3

Fractures & Dislocations of Joints

<table>
<tr><th>ELEMENTS</th><th>EXPLANATION</th></tr>
<tr><td></td><td>Assumes that treatment is for injury of a joint or a severely angulated fracture which cannot be straightened.</td></tr>
<tr><td>1. Determine if external hemorrhage is involved.</td><td></td></tr>
<tr><td>2. If external hemorrhage is involved, place dressing over the area of the wound and apply only enough pressure to hold dressing in place.</td><td>Pressure applied should not be so great as to further complicate the injury beneath surface wound.</td></tr>
<tr><td>3. Determine equipment best suited for injury based upon:
A. position of patient
B. nature of injury
C. location of injury</td><td>Equipment may be selected using the following guide:
<table>
<tr><th>Area</th><th>Equipment</th></tr>
<tr><td>Angulated fracture</td><td>Board splint</td></tr>
<tr><td>Shoulder</td><td>Sling & Swathe</td></tr>
<tr><td>Hand, Foot, Ankle, Wrist</td><td>Pillow, Board Splint</td></tr>
<tr><td>Elbow, Knee</td><td>Board Splint</td></tr>
<tr><td>Hip</td><td>Sandbag</td></tr>
</table></td></tr>
<tr><td>4. Using selected equipment, immobilize and secure extremity in position found.
(Go to Task Element #12)</td><td>It may be necessary to improvise because of various configurations which may occur in angulated fractures, joint fracture, or dislocations.</td></tr>
</table>

ORTHOPAEDIC INJURIES

LOOP 4

Application of Air Splint

ELEMENTS	EXPLANATION
	Assumes the air splint has been chosen as equipment to be used.
1. Select proper size air splint to use.	Air splints come in 6 sizes: a. hand and wrist b. half arm c. full arm d. foot and ankle e. half leg f. full leg The size to be used is determined by the need to immobilize the joint above and below the fracture. Leg splints may have boot attached. If boot is attached, splint will not be tubular but will zip up.
2. Place deflated splint on rescuer's arm, small end of splint nearest rescuer's shoulder.	Assumes air splint is tubular and does not have a foot air splint attached.
3. While supporting injured extremity, grip patient's hand or foot and gently slide splint over extremity.	If foot air splint is attached, it will be necessary to support injured extremity and place air splint under and around extremity. The splint may then be zipped up.
4. Inflate splint until only a slight dent can be made in the splint with the thumb.	If splint is inflated too much, it may impair circulation.
5. Monitor fingers (or toes) to check cyanosis. (Go to Task Element #12.)	

ORTHOPAEDIC INJURIES

LOOP 5

Application of Hare Traction Splint

ELEMENTS	EXPLANATION
1. Support extremity below injury site and apply steady pull (traction).	By applying traction, tension caused by the muscles is removed from the bones. Assumes traction splint is to be applied. Assumes manual traction has already been applied.
2. Prepare splint by adjusting to appropriate length, opening all Velcro straps, and releasing traction strap from winch.	Preparation over other types of traction splints (Thomas Half-ring) will vary.
3. One rescuer continues manual traction.	Hands should be positioned such that the T-strap may be applied without releasing traction. The second rescuer does the following while the first continues traction.
4. Slide traction splint into position with upper padded bar against buttocks. Fasten top Velcro strap and place support bar under heel of foot.	
5. Apply T-strap with shortest strap along Achilles' tendon and two other straps crossing over top of foot.	Shoe may be left on to give added padding, or it may be removed (if easily accomplished to expose toes).
6. Attach traction strap to T-strap; apply traction using the windlass equal to manual traction.	Winch should only be tightened until patient feels some relief.
7. Secure Velcro straps around extremity. (Go to Task Element #12.)	Straps should not be placed on the knee or suspected fracture site.

ORTHOPAEDIC INJURIES

LOOP 6

Use of Sling & Swathe

ELEMENTS	EXPLANATION
	Assumes that sling and swathe has been chosen. May be used on injuries involving clavicle.
1. Place patient's arm in a comfortable position across chest such that the patient's hand points toward the opposite shoulder.	
2. Place cravat such that the long edge runs along patient's side opposite injury with point under elbow of arm to be splinted.	
3. Bring bottom end up around neck and secure ends together.	Do not tie knot directly behind neck.
4. Knot or pin pointed end to form a cradle for elbow.	
5. Make a swathe approximately 6 inches wide from a cravat or bandage.	
6. Circle body and arm sling and draw it snugly to body. Pin on knot securely in place to avoid movement.	Do not encircle free arm.

ORTHOPAEDIC INJURIES

LOOP 7

Use of Pillow

ELEMENTS	EXPLANATION
	Assumes pillow to be used may be used to immobilize a foot or ankle injury.
1. Mold pillow around foot to ankle.	
2. Secure with several cravats or bandages.	
3. Monitor patient's toes for signs of cyanosis. (Go to Task Element #12.)	

MODULE VII

MEDICAL EMERGENCIES

MEDICAL EMERGENCIES

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the student will be able to display the following behaviors on a paper and pencil test to 80 percent of the items appearing on the test. The student will not be permitted to use any material or notes during the examination.

1. Given a list of survey techniques, the student will be able to identify the items which are critical to the initial survey of a medical patient.

2. Given lists of signs and symptoms, the student will be able to identify the medical problem as being one of the items listed:

   A. Cerebrovascular Accident
   B. Asthma
   C. Emphysema
   D. Hyperglycemia
   E. Hypoglycemia
   F. Epilepsy
   G. Absorbed Poison
   H. Inhaled Poison
   I. Ingested Poison
   J. Injected Poison
   K. Acute Abdomen
   L. Poisonous Insect Bite
   M. Heat Cramps
   N. Heat Exhaustion
   O. Heat Stroke

3. Given a list of causative factors, the student will be able to select the resultant medical illness from a list of medical emergencies including:

   A. Coronary Thrombosis
   B. Angina
   C. Congestive Heart Failure
   D. Cerebrovascular Accident
   E. Hyperglycemia
   F. Hypoglycemia

4. Given a list of lifting and transportation methods, the student will be able to select the correct method(s) to be used in transporting patients in specific situations. The situations will include:

   A. A coronary thrombosis patient in a rest home bed
   B. A congestive heart failure patient sitting on a bed in a bedroom at the end of a narrow hallway in a ranch style home
   C. An unconscious C.V.A. patient slumped in a living room chair
   D. An angina patient lying on a living room floor
   E. An unconscious hyperglycemia patient lying on some front porch steps.

5. Given a list of oxygen administration methods, the student will be able to match the percentages of oxygen delivered with the method of administration.

KNOWLEDGE OBJECTIVES

6. Given a list of oxygen delivery methods, the student will be able to select the method most accepted by congestive heart failure patients.

7. Given a list of diabetic conditions, the student will be able to select the most life-threatening condition.

8. Given a list of chemical substances, the student will be able to identify them as:

   A. Caustic
   B. Depressant
   C. Stimulant
   D. Asphyxiant

9. Given list of facts or specific situations, the student will select the most complete list of information to be submitted to a poison control center.

10. Given a list of medical emergencies and patient conditions, the student will identify those which should be transported to the hospital using emergency warning devices (i.e., lights and siren).

11. Given a list of symptoms, the student will identify the acute abdominal illness which those symptoms represent. Those symptoms will include the following acute abdominal states:

    A. Appendicitis
    B. Bowel obstruction
    C. Ectopic pregnancy
    D. Gall bladder infection
    E. Ruptured uterus
    F. Ulcers

MEDICAL EMERGENCIES

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given a simulated patient weighing between 150 and 200 pounds and an ambulance cot, the student will be able to employ a three-man lift (with the assistance of two other students) to move a patient from a supine position on a flat surface to the ambulance cot. As a minimum of behavior, the student must; (a) not allow the simulated patient to exert any energy during the lift; (b) maintain the patient in a supine position throughout the lift; and (c) lift the patient in a smooth and gentle manner.

2. Given a straight-back chair and a simulated patient weighing between 150 and 200 pounds, the student (with the assistance of one other student) will be able to correctly lift the patient from a sitting position to the straight-back chair. The student (with one fellow student) will be able to transport the patient over a level surface (e.g., across the room), up a flight of stairs and down a flight of stairs. As a minimum behavior, the student must; (a) not allow the patient to expend any energy during the lift or transportation; (b) employ proper hand position during the lift as demonstrated by the instructor during the demonstration session of the class; and (c) employ proper hand position on the chair as demonstrated by the instructor during the demonstration session of the class.

MEDICAL EMERGENCIES

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will be responsible to:

1. Distribute the Student Activity sheet and handouts during the class period prior to beginning this module. Assignments are:

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition.
   Pages: 341-347 Review only
   Pages: 347-369, 455-457 The Chair Lift

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 149-158

2. This Module is planned for 6 hours. The Lecture will involve the use of slides and filmstrips. The content of the lecture is specified in the Module Outline. Part III of Module Lecture is to be reviewed only.

   A. Slides are from the EMERGENCY CARE SERIES, Robert J. Brady Company. Unit 8

   B. Filmstrips: EMERGENCY MEDICAL CARE, by Trainex.

      (1) Medical Emergencies
      Subtitles: Respiratory Distress, Acute Abdomen.
      Tracks 1 to 5, Program No. 392.
      (2) Heart Attack, Stroke, Unconsciousness and Communicable Diseases, Program No. 352.

   C. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.

      (1) Treatments for Poisons, Stings
      Drugs and Alcohol, Unit 19.

   D. References:

      (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons) (1975). 2nd Edition. Pages: 339-349, 291-298, 231-256.
      (2) Advanced First Aid and Emergency Care, the American National Red Cross, (1973). Pages: 95-133, 151-154, 225-245.
      (3) Emergency Treatment of Insect Stings and Bites, Claude A. Frazer, M.D., P.A., Emergency Medical Services. April, 1978.
      (4) Basic Life Support Skills Manual, by Charles Phillips, M.D., Robert J. Brady Company. (1977). Pages: 134-144.
      (5) Basic Emergency Medicine, by Robert H. Miller and James R. Cantrell C.V. Mosby Company, (1975). Chapters: 8, 11, 12, 13, 14, 15.
      (6) Emergency Cardiac Assessment, by Tomas M Madayag, Jr., BA, RN, CVNS, MED., Emergency Medical Service, September/October, 1978

E. Alternative Learning Resources:

(1) Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.
  - (a) Medical Emergencies, Unit 16.
  - (b) The Respiratory and Circulatory System, Unit 4.
  - (c) Artificial Ventilation, Obstruction, and Oxygen Support, Unit 5.

F. Handout: No. 13 Endocrine System

3. Prepare notes and conduct the demonstration session. The demonstrations consist of:

   A. Administration of oxygen using a nasal cannula and a rebreather mask
   B. Two- and three-man lifts
   C. Chair lift and transport on level terrain and up and down steps

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

5. After the practice session and lecture, the instructor will evaluate the student's ability to perform each of the three skills. The student's skills can be evaluated separately or collectively. In addition, each student will be required to take a written examination. After completing the two evaluations, the instructor will advise the student on his/her progress and suggest Alternative Learning Resources, if appropriate.

MEDICAL EMERGENCIES

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and Chalkboard
Slide Projector
Filmstrip/cassette Machine
Heart Model
Lung Model
Organic Torso

Medical

Ambulance Cot
Hospital Bed
Hospital Gurney
Straight Back Chair (4)
"E" Oxygen Tank with Regulator and Flow Meter (2)
Rebreather Mask (10)
Nasal Cannula (10)
Blood Pressure Cuff (4)
Stethoscope (4)

HANDOUTS

Task sheets
Handout No. 13 Endocrine System
Skill Development Checklist
Skill and Knowledge Objectives
Skill Evaluation Sheets
Written Examination

AUDIOVISUALS

Slides: Emergency Care Series, by Brady Company, Unit 8
Filmstrips: Emergency Medical Care, by Trainex
Program No. 392 and 352

MEDICAL EMERGENCIES

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material assigned prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition.
   Pages: 341-347 Review only
   Pages: 347-369, 455-457 The Chair Lift

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company. (1978). 2nd Edition. Pages: 146-158.

3. Handouts: No. 13 Endocrine System

4. Student Skill Development Checklist for Medical Emergencies. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

5. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

6. Alternative Learning Resources

   A. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training Inc.
      (1) Medical Emergencies, Unit 16
      (2) The Respiratory and Circulatory Systems, Unit 4.
      (3) Artificial Ventilation, Obstruction, and Oxygen Support, Unit 5

7. Skill development checklist begins on next page.

MEDICAL EMERGENCIES

7. Before leaving this module the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTORS INITIAL
Performance Skills: Review: Primary Survey			
Secondary Survey			
Type "E" O_2 tank			
O_2 Mask			
O_2 Cannula			
Two-Man Lift			
Three-Man Lift			
Chair Lift			

MEDICAL EMERGENCIES

THE ENDOCRINE SYSTEM

HANDOUT # 13

I. Terms and definitions

- A. Endocrinology--Study of the endocrine system
- B. Hormone--Internal secretion of a gland or an organ which regulates a body function
- C. Malfunction--Failure to operate in normal or usual manner
- D. Hypersecretion--Excessive secretion
- E. Hyposecretion--Inadequate secretion
- F. Diabetes Mellitus--Disorder of carbohydrate metabolism characterized by hyperglycemia and glycosuria
- G. Diabetes insipidus--Metabolic disorder characterized by intense thirst and excretion of large amounts of urine
- H. Tetany--Disturbed calcium metabolism resulting in intermittent muscle spasm of the extremities (DO NOT CONFUSE WITH TETANUS)
- I. Inhibitory relationship--Interaction of two or more hormones to maintain a constant level of activity

II. Glands

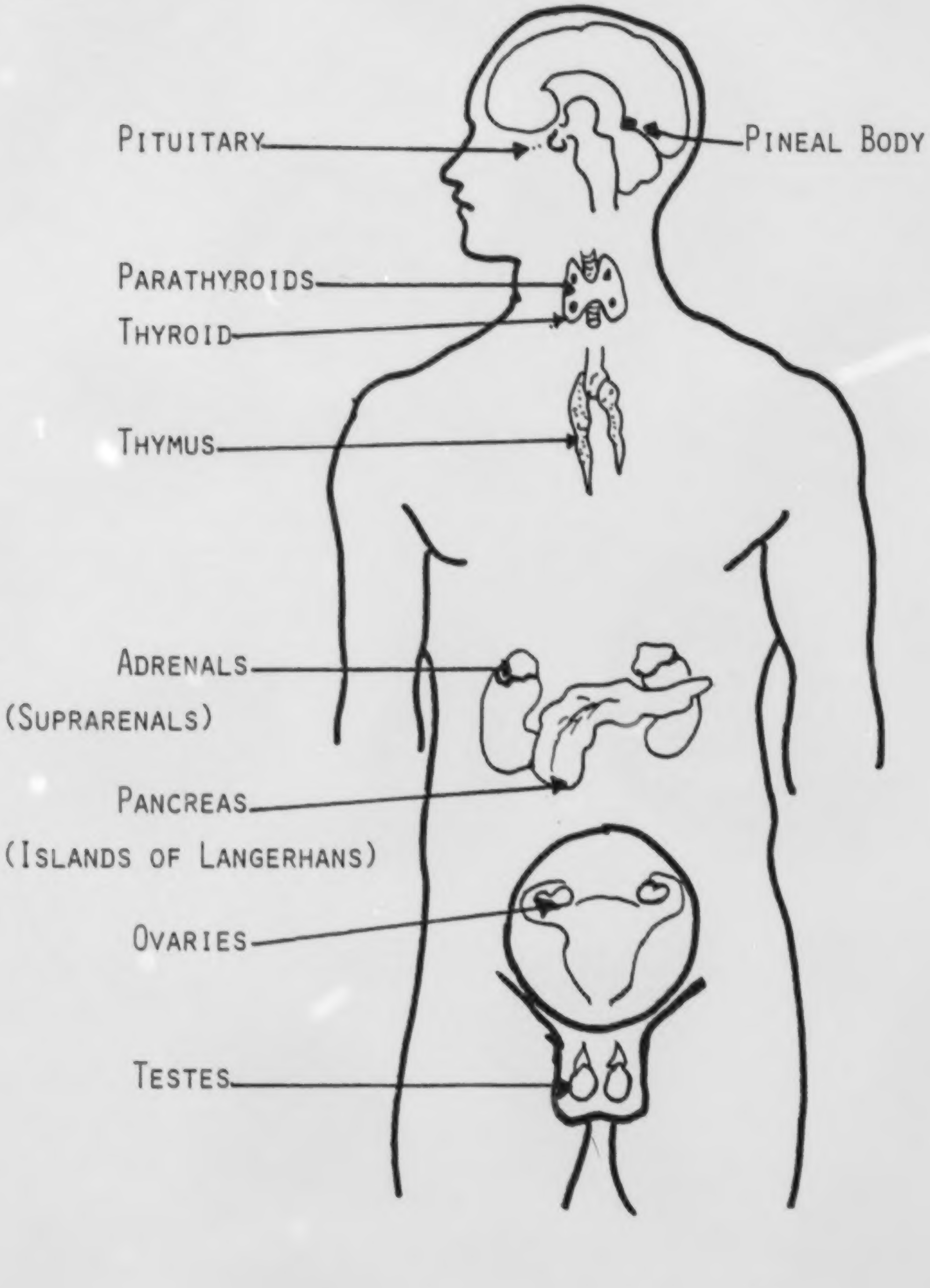
- A. Exocrine
  1. Those whose secretions reach an epithelial surface either directly or through a duct
  2. Glands of external secretion: EXAMPLE--Sweat glands which secrete externally to the surface or outside of the body; glands that secrete digestive juices into the digestive tract which in turn leads outside the body.
- B. Endocrine
  1. Those whose secretions are absorbed directly into the blood which then transports them throughout the body
  2. Ductless glands or glands of internal secretion: EXAMPLE--Thyroid gland secretes thyroxin directly into the bloodstream.

III. Fundamental facts about endocrine glands

- A. Located in widely separated parts of the body
- B. Closely related to the nervous system in regulatory action
- C. Well supplied with blood; often present a bleeding problem in surgery
- D. Actions interrelated; hormones from one gland act upon another gland
- E. Composed of epithelial and connective tissue
- F. Aid in maintaining homeostasis
- G. Malfunction may result from hypersecretion or hyposecretion
- H. Closely dependent upon the circulatory system

MEDICAL EMERGENCIES
ENDOCRINE SYSTEM

HANDOUT # 13


PITUITARY
PINEAL BODY
PARATHYROIDS
THYROID
THYMUS
ADRENALS
(SUPRARENALS)
PANCREAS
(ISLANDS OF LANGERHANS)
OVARIES
TESTES

480

HANDOUT # 13: (continued)

IV. Endocrine glands

A. Pineal body
B. Pituitary or hypophysis
C. Parathyroids
D. Thyroid
E. Thymus
F. Adrenals or suprarenals
G. Pancreas (islands of Langerhans)
H. Ovaries
I Testes

V. General characteristics of hormones

A. Each has a specific function
B. Amount of hormone circulating in the blood remains nearly constant
C. Concentration of one hormone may influence
D. Hormones have a profound effect upon growth, development and destruction of the hormone
E. Most hormones are steroids or proteins
F. Hormones may have a synergistic, permissive or inhibitory relationship

VI. Major endocrine glands, their hormones and functions

	GLAND	HORMONE	FUNCTION
A.	Pituitary	Many	Control other glands; stimulate growth
B.	Thyroid	Thyroxin	Controls rate of metabolism
C.	Parathyroid	Parathyroid	Regulates calcium and phosphorous metabolism
D.	Pancreas	Insulin from islands of Langerhans	Essential for utilization of glucose
E.	Ovaries	Estrogen and progesterone	Development and maintenance of female reproductive organs
F.	Testes	Testosterone	Development and maintenance of male reproductive organs
G.	Adrenal		
	1. Medulla	Adrenalin	Prepares body for fight or flight
	2. Cortex	Corticoids	Aids body in coping with stress or infection

HANDOUT #13: (Continued)

VII. Other organs that secrete hormones

A. Placenta--Produces hormones during pregnancy.
B. Thymus--Produces a hormone that stimulates production of lymphocytes by the lymph glands. Thymus reaches its greatest size when a child reaches about six years of age then it gradually diminishes in size.
C. Pineal body--Function is debated. It may secrete a hormone, melatonin, which inhibits ovarian function.

VIII. Hormones not secreted by endocrine glands

A. Gastrin--Secreted by the stomach wall; it stimulates the secretions of the gastric glands.
B. Secretin--Secreted by the small intestine; it stimulates pancreatic juices.
C. Villikinin--Secreted by the small intestine; it stimulates movements of the intestinal villi.

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
I. Survey for Medical Patient	Task 1
A. Question Patient and Family or Bystanders	
B. Determine Diagnostic and Vital Signs	
C. Search for any Medical Alert Tags or Identification Cards	
II. General Management for Medical Patient	
A. Determine Problem and Treat	
B. Treat for Shock	
III. Cardiac-Related Problems	Review Only LOOP 1
A. Coronary Thrombosis or Coronary Occlusion	
1. Cause	
a. coronary artery gradually narrows due to fatty deposits called plaques	
b. blood clot becomes lodged in the narrowed artery and shuts off blood supply to some portion of the heart	
c. this hypoxic (oxygen-starved) portion of the heart causes pain and sometimes disrupts the normal heartbeat due to its extreme sensibility	
d. without oxygen, this hypoxic area of the heart becomes anoxic (without oxygen) and finally becomes necrotic (dies). Scar tissue then forms	
e. the severity of the heart attack depends on the area of tissue affected	

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
f. older persons in good health are better able to withstand a coronary because they can decrease the area of tissue affected with collateral circulation	
g. collateral circulation develops over many years as a means of supplementing a reduced blood flow through the coronary artery because of its narrowing	
2. Survey	
a. question patient and family concerning history	
b. gather vital signs	
3. Treatment	
a. comfort and attempt to reassure patient	
b. calm patient and any excited family members or bystanders	
c. place in a sitting or semi-reclining position	
d. administer oxygen with the highest percentage device the patient will tolerate	
DEMONSTRATION #1	Review Only
e. explain all steps to patient	
f. maintain body temperature	
4. Transport	
a. do not allow patient to move under own power	
DEMONSTRATION #2	

LECTURE TOPICS	REFERENCES

- b. transport to the hospital as quickly as possible using lights if necessary but no siren

B. Angina Pectoris (Sub-Sternal Pain)
- 1. Cause
  - a. pain caused by hypoxic cardiac muscle
  - b. hypoxic cardiac muscle caused by deficient oxygen supply
  - c. deficient oxygen supply caused by decreased blood supply
  - d. decreased blood supply caused by narrowing of the coronary artery called atherosclerosis
  - e. angina attacks occur when the heart overexerts itself due to
    - (1) emotional stress
    - (2) physical exertion
- 2. Survey - the symptoms are the same as those of a coronary with the exception of
  - a. pain caused by physical or emotional stress
  - b. nitroglycerine will relieve the pain
- 3. Treatment - same as for a coronary patient
- 4. Transport
  - a. do not allow patient to move under own power
    - (1) two-man lift from a bed
    - (2) extremities lift from a chair to a stretcher
    - (3) chair carry

LECTURE TOPICS	REFERENCES

- b. unless pain goes away, transport to the hospital under the same conditions as for a coronary patient

C. Congestive Heart Failure or Chronic Heart Failure

1. Cause
    - a. due to advanced age, illness, or prior heart attack, the left ventricle is not able to empty itself of blood with each contraction
    - b. the excess blood blocks up the pulmonary vein to the lungs and they begin to fill with fluid. This situation is called pulmonary edema
    - c. the patient will drown unless this fluid is eliminated with medication to dehydrate the patient
2. Symptoms
    - a. shortness of breath - patient is usually straining to breath
    - b. fluid in lungs - results in noisy gurgling respiratory activity (rales)
    - c. profuse perspiration
    - d. peripheral cyanosis
    - e. severe fatigue
    - f. cannot lay down (almost always must remain rigidly seated)
3. Treatment
    - a. administer oxygen in the highest concentration possible (the patient may reject any type of mask)

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
b. elevate head and shoulders as high as the cot will allow	
c. reassure, comfort, and explain all events concerning treatment and transportation	
d. maintain body temperature	
4. Transport	
a. same as other cardiac-related problems	
b. maintain elevated head and shoulder position or patient may drown in pulmonary edema	
DEMONSTRATION #3	
IV. Respiratory-Related Problems	LOOP 2
A. Anatomy	Review Only
1. Oral cavity	
2. Nasal cavity	
3. Trachea	
4. Bronchi	
5. Bronchiolus	
6. Alveoli - 700 million/lung	
7. Pleural cavity	
B. Terms	
1. Dyspnea - difficult or labored breathing	
2. Apnea - absence of breathing	
C. Asthma	
1. Definition - a disease which causes spasm of the smaller bronchioles of the lungs	
2. Cause - allergic reaction to dust, pollen, foods or drugs	

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES

3. Physiology - the spasm of the bronchioles restricts the movement of air out of the lungs. There is no room for any air to be drawn into the lungs
4. Survey and symptoms
    a. dyspnea, labored expirations leading to over-inflation of the lungs
    b. wheezing on expirations
    c. coughing spells
    d. tension and anxiety
    e. cyanosis
5. Management and treatment
    a. sitting or semi-sitting position
    b. administer any doctor-prescribed medication
    c. administer oxygen
    d. reassure and comfort

D. Emphysema
1. Definition - a disease which causes the lungs to lose their elasticity
2. Cause - due to constant irritation of the lungs by smoke or pollution
3. Survey and symptoms
    a. dyspnea
    b. cyanosis
    c. tension and anxiety
4. Management
    a. sitting or semi-sitting position
    b. administer oxygen
    c. monitor for respiratory arrest
    d. calm and reassure

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
B. Traumatic Emphysema	
1. Definition - an injury causing over-inflation of alveoli and the injection of air into the chest wall	
2. Cause - tremendous pressure within the chest caused by a violent compressive force	
3. Survey	
a. dyspnea	
b. cyanosis	
c. tension pneumothorax symptoms	
4. Management	LOOP 2
a. administer oxygen	
b. monitor respiration and watch for respiratory arrest	
F. Subcutaneous Emphysema	
1. Definition - an injury causing a rupture of the lungs or bronchi which forces air from the lungs under the skin	
2. Cause - a force sufficient to fracture a rib which lacerates the lungs	
3. Survey	
a. dyspnea and cyanosis	
b. extreme swelling of the neck, face, chest wall, abdominal wall, and scrotum	
c. tension pneumothorax symptoms	
4. Management - same as for tension pneumothorax	

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
G. Spontaneous Pneumothorax	
1. Definition - presence of air in the pleural cavity	
2. Cause - a weakened area of the lung has given way	
3. Survey - similar to a coronary	
4. Management - same as for tension pneumothorax	
V. Cerebrovascular Accident (C.V.A., Stroke, Apoplexy)	LOOP 3
A. Definition - the condition in which a portion of the brain suddenly loses its function because of inadequate blood supply	
B. Cause	
1. A clot forming in an artery to the brain (thrombosis)	
2. A rupture of an artery to the brain	
3. A clot forming in a blood vessel elsewhere (embolus) and traveling to the brain and lodging in an artery there	
C. Survey	
1. Question family and patient (if possible) to gather patient history information	
2. Gather vital signs and observe for:	
a. differences in pupilary reaction	
b. differences in BP in left and right arms	
c. paralysis of one or both sides of the body	
d. difficulty in speaking and/or swallowing	

LECTURE TOPICS	REFERENCES
e. loss of bladder and/or bowel control	
D. Management	
1. Administer oxygen	
2. Reassure, comfort, and explain to patient each treatment and transportation procedure	
3. Talk to patient even though he/she may seem very confused, he/she may understand everything being said	
4. Maintain an open airway since the patient may not be able to do so on his own	
VI. Endocrine System	
A. Anatomy	Handout #13
1. Terms	
2. Glands	
a. exocrine	
b. endocrine	
c. fundamental facts/characteristics	
d. pineal body	
e. pituitary	
f. parathyroids	
g. thyroid	
h. thymus	
i. adrenals	
j. pancreas	
k. ovaries	
l. testes	
VII. Diabetic States	

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES

A. Definition - diabetes mellitus ("sugar diabetes") is a disease in which the body is not able to utilize sugar (glucose) normally

B. Cause
   1. Sugar in the blood stream can be utilized by the cells of our body only if insulin is available
   2. Insulin is secreted by an organ called the pancreas located in the abdominal cavity
   3. A person suffering from diabetes mellitus has a pancreas which does not produce enough insulin, so they must take manufactured insulin by ingestion or injection or merely control their diet

C. Diabetic Coma (Hyperglycemia)
   1. Definition - a condition in which there is insufficient insulin to utilize the available sugar
   2. Cause - waste products in the blood produced by cells using energy other than sugar
      a. eaten too much sugary foods
      b. not taken enough insulin
      c. has an infection

D. Insulin Shock (Hypoglycemia)
   1. Definition - a condition in which there is excess insulin in the blood
   2. Cause - insufficient sugar available for the brain cells

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
a. not eaten enough food b. taken excess insulin c. exercised excessively E. Survey Diabetic Coma and Insulin Shock 1. Ask patient (if possible) or family if insulin has been taken on schedule 2. Determine skin temperature and condition (i.e., hot and dry or cool and moist) 3. Determine if patient has eaten since taking insulin 4. Determine if intake of sugar has been excessive 5. Determine if patient has exercised excessively	
F. Management 1. If diabetic coma - transport under emergency conditions (i.e., lights and siren) to a medical facility for proper insulin administration 2. If insulin shock - administer some sugar to patient by mouth a. orange drink b. soft drink c. candy d. in an unconscious or semi-conscious patient, some sugar substance may be placed under the tongue. It must be a substance that will dissolve rapidly (e.g., three or four small packets of granulated sugar).	LOOP 4

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
e. if unsure as to whether diabetic coma or insulin shock, administration of too much sugar is not a serious problem since the patient's sugar balance may be corrected by a physician upon arrival at the hospital	
VIII. Poison	
A. Definition - any substance that acts to produce a harmful effect on the normal body processes	
B. Types - classified according to the affect upon the body 1. Caustics - damage any tissue they contact a. acids b. alkalis 2. Depressants a. alcohol b. barbituates c. snake or spider venom 3. Stimulants a. amphetamine b. caffeine 4. Asphyxiants a. carbon monoxide	
C. Methods 1. Absorbed	LOOP 5
a. survey (1) ask bystanders (2) examine skin surface (3) determine type by examining	Elements 3-4, 9-10

LECTURE TOPICS	REFERENCES
environment and containers in area b. management (1) irrigate area of absorption for at least 15 min. (2) remove contamination article (e.g., rings, wristwatch, clothing) (3) monitor vital signs for severe shock	
2. Inhaled a. survey (1) question patient and bystanders (2) examine upper airway (3) evaluate breath odor (4) observe area for source of poison b. management (1) remove patient from contaminated environment (2) administer high concentration of oxygen with rebreather mask or demand valve (3) transport quickly	LOOP 5 Elements 2, 9-10
3. Ingested a. survey (1) question patient and bystanders (2) examine upper airway (3) evaluate breath odor (4) observe area for source of poison (take container to hospital if possible) (5) determine if poison swallowed or other circumstances contraindicate vomiting as a method of	LOOP 5 Elements 7-10

LECTURE TOPICS	REFERENCES
treatment (e.g., petroleum products, strong alkalis, strychnine or an unconscious patient)	
b. management	
(1) induce vomiting unless contraindicated	
(2) take vomitus to hospital	
4. Injected	LOOP 5
a. survey	Element 5-6, 9-10
(1) question patient (if possible) or bystanders	
(2) examine for injection site and accompanying swelling	
(3) take container or other source of poison (e.g., dead insect, controlled or dead animal) to hospital	
b. management	
(1) if injection site is at an extremity, remove rings, watches, etc.	
(2) apply constricting bands above and below injection site if possible	
(3) monitor peripheral pulse	
(4) transport without delay	
(5) monitor circulation and respiration	
c. animal and human bites	
D. Poison Control Center	

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
1. Purpose - to centralize and make available information and treatment for poisons	
2. Rescuer's responsibility to the P.C.C.	
a. what poison	
b. how much taken	
c. how long ago	
d. save any vomitus for analysis	
e. save container or label	
IX. Convulsive States	
A. Definition - involuntary muscular contractions	
1. Localized to one area of the body	
2. Generalized to include all areas of the body	
B. Cause	
1. Injury	
2. Poisoning	
3. Stroke	
4. Epilepsy	
C. Survey for	
1. Unconsciousness	
2. Muscle movement is jerky and purposeless	
3. Cyanotic	
4. Foaming at mouth	
5. Labored breathing	
D. Management	LOOP 6
1. Maintain patient's airway	
2. Restrict patient's movements to prevent injury to patient through convulsive movements	
3. Permit patient to rest after seizure	

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
E. Epilepsy 1. Definition - a disorder characterized by a sudden onset of unconsciousness and occasionally convulsions 2. Cause - unknown 3. Types a. petit mal seizure-brief period of unconsciousness b. grand mal seizure (1) violent convulsions sometimes preceded by a sensory warning (2) survey for - convulsions (3) management	
X. Acute Abdomen	LOOP 7
A. Definition - the presence in a patient of an abdominal disease causing serious irritation or inflammation of the lining of the abdominal cavity (peritoneum)	
B. Cause 1. Medical Disorder 2. Injury	
C. Survey 1. Pain in abdominal area 2. Short rapid respiration 3. Trachycardia 4. Low BP 5. Distended and often tense abdomen 6. Vomiting	

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
D. Management	
1. Administer oxygen	
2. Report nature of any vomitus to hospital	
3. Place patient in a shock position	
4. Maintain body temperature	
E. Specific Types With Symptoms	
1. Appendicitis - loss of appetite, pain in lower right abdomen	
2. Bowel obstruction - distended abdomen, colicky, cramping pain	
3. Ectopic pregnancy - cramps in lower abdomen, shock	
4. Gall bladder infection - cramps in upper right abdomen	
5. Ruptured uterus - bleeding from the vagina, internal tearing sensation, shock	
6. Ulcers - pain in upper abdomen, blood in vomitus, black tar-like feces, shock, tender rigid abdomen	
XI. Communicable Diseases	LOOP 8
A. Definition - any disease which can be transmitted from one person to another by any means except heredity	
B. Transmission	
1. Droplet infection	
2. Direct contact	
3. Indirect contact	
C. Prevention of Transmission	

LECTURE TOPICS	REFERENCES
1. Wear clothing which can be destroyed if necessary	
2. Remove unnecessary equipment	
3. Use diposable liner	
4. Air ambulance for two hours and wash thoroughly	
5. Check if any immunization shots or tests are available for the EMTs	
XII. Hyperthermia	LOOP 9
A. Caused by an environment which does not allow the body to liberate excess body heat through convection	
1. Occurs when air temperature is in excess of 98.6° F	
2. High humidity and no wind contributes greatly	
3. May occur when humidity is high, body heat generation is high and outside temperature is even lower than 98.6°F	
B. Three major problems may occur independently or in combination	
1. Heat exhaustion	
a. caused through exertion in hot environments (in and out-of-doors)	
b. blood pools in vessels	
c. inadequate return flow to heart	
d. symptoms are the same as hypovolemic shock	
2. Heat cramps	

LECTURE TOPICS	REFERENCES

- a. caused through exertion in hot environments
- b. loss of body salt through perspiration
- c. ingestion of cold beverages too quickly or in large quantity may cause cramps (muscle spasms)
- d. symptoms are the same as heat exhaustion with accompanying cramps and extreme pain

3. Heat Stroke
   - a. severe disturbance of the body's ability to regulate heat
   - b. serious threat to life
   - c. causes are identical to heat exhaustion and cramps
   - d. symptoms
     - (1) sudden onset
     - (2) dry, hot reddish skin
     - (3) full, rapid pulse
     - (4) deep respirations upon onset changing to very shallow
     - (5) early unconsciousness
     - (6) possibly convulsive
     - (7) high body temperature upwards of 105°F

C. Emergency Care for Hyperthermic Conditions

1. Heat exhaustion
   - a. cool patient by moving to a cooler environment or fan patient to increase convection activity
   - b. administer cool salt water solution by mouth (1 tsp./1 qt.)
   - c. do not allow the patient to become chilled

MEDICAL EMERGENCIES

LECTURE TOPICS	REFERENCES
d. treat for shock	
2. Heat cramps	
a. remove patient to cooler environment	
b. administer small amounts of cool salt water	
c. massage cramped muscle	
3. Heat stroke	
a. maintain an open airway and prevent injury if patient is convulsive	
b. do not delay movement to a medical facility	
c. attempt to lower patient's body temperature as soon as possible	
(1) move patient to cooler environment	
(2) remove as much clothing as possible	
(3) wrap patient in wet sheet	
(4) apply cold packs	
XIII. Hypothermia	LOOP 10
A. Caused by low environmental temperature that exceeds the body's ability to maintain its normal temperature	
1. Wind-chill factor index is useful in gauging hazard potential	
2. Prolonged exposure	
3. Inadequate clothing	
4. Improperly worn clothing	
B. Progressive Onset	
1. Shivering	
2. Feeling of apathy, listlessness, indifference, fatigue	

LECTURE TOPICS	REFERENCES

3. Patient becomes sleepy
4. Eyes become glassy
5. Pulse and respiratory rates drop
6. Extremities freeze
7. Death results

C. Emergency Care for Hypothermia
1. Maintain an open airway
2. Do not delay transportation
3. Warm body to elevate temperature
   - a. remove wet clothing
   - b. move patient to a warm environment
   - c. warm all body surfaces
   - d. do not place any external heat source next to bare skin
   - e. hot liquids can speed process if patient is conscious
4. Monitor vital signs
5. If patient arrests (either respiratory or cardiac), begin basic life support

MEDICAL EMERGENCIES

DEMONSTRATION #1: ADMINISTRATION OF OXYGEN-(REVIEW)

Using an "E" oxygen tank with regulator, flow meter, nasal cannula, and rebreather mask, demonstrate the following skills:

1. Observe for "100% USP" marking
2. Remove protective cap from tank
3. Application of regulator and flow meter to oxygen tank:
    A. Flow gauge in "off" position
    B. Align pin index safety system
    C. Maintain alignment with one hand while tightening screw and handle with the other hand
4. Connect nasal cannula to oxygen source
5. "Crack" the tank and adjust flow
6. Apply the nasal cannula to other instructor or student:
    A. Explain all procedures to simulated patient
    B. Note position of nasal prongs
    C. Adjust cannula for good fit
7. Remove nasal cannula and turn off oxygen
8. "Bleed" gauge and return gauge to off position
9. Connect rebreather mask to oxygen source
10. "Crack" tank and adjust flow
11. Apply mask to other instructor or student:
    A. Explain all procedures to simulated patient
    B. Achieve best fit possible with plastic mask covering nose and mouth
    C. Adjust straps to maintain mask position
12. Remove mask from patient and turn off oxygen
13. "Bleed" gauge and return gauge to off position

DEMONSTRATION #2: TWO-MAN LIFT

Using a member of the class weighing between 150 and 200 pounds, demonstrate the following skills by employing the assistance of either another instructor or a student:

1. Explain procedure to patient by informing:
    - A. Who is going to lift patient
    - B. That you will place your hands under patient to lift
    - C. Where you are going to place patient
2. Ask the patient to place arms on stomach.
3. Place hands and arms under patient:
    - A. Both rescuers on the same side
    - B. Rescuer at patient's head cradles head and shoulders with one arm and presses other arm under patient's body at the beltline
    - C. Other rescuer places one arm under patient's body at the beltline and the other arm under the knees
4. Lift together:
    - A. Ask co-worker if he/she is ready
    - B. Give command to lift (type of command must be based on situation; however, a nod of the head is usually sufficient)
5. Roll patient toward rescuer's chest.
6. Place patient on ambulance cot or other surface, maintaining level position.
7. Demonstrate three-man lift in same manner:
    - A. Rescuer at head of patient - same hand position
    - B. Rescuer in middle of patient - supports mid-section only
    - C. Third rescuer supports lower extremities

DEMONSTRATION #3: CHAIR LIFT AND TRANSPORTATION

Using a straight back chair and a simulated patient weighing between 150 and 200 pounds, demonstrate the following skills using another instructor or a student:

1. Lift a patient from a bed to a chair by:
    - A. Elevate patient's head and shoulders to a sitting position
    - B. One rescuer lifts under armpits
    - C. One rescuer lifts under knees
    - D. Informing patient of all procedures
2. Lift patient using chair and transport by:
    - A. One rescuer grasps upright supports on the back of the chair on each side
    - B. One rescuer grasps front chair legs at lowest point
    - C. Both rescuers face chair
    - D. Tilt chair back to rear legs and lift
3. Movement of patient up and down steps by:
    - A. Maintaining same hand position at highest and lowest points on chair
    - B. Keeping patient facing down the steps when going up or down
4. Upon arriving at destination, place back legs down first.

MEDICAL EMERGENCIES

PRACTICE SESSIONS FOR STUDENTS

INTRODUCTION

After the lecture and demonstrations, students should be given the opportunity to practice their skills. This practice session can be conducted in one of several ways:

1. Students can be given the skill evaluation sheets as a job aid or to guide their practice or they can use their notes taken during the lecture and demonstration. Students should be informed as to what materials and job aids they will be permitted to use.

2. If assistant instructors are available, they can be assigned to groups of students to ensure that the students understand the skill and procedures. If assistant instructors are used, the instructor should train and evaluate the assistant instructors on their ability to perform the required skills prior to the practice exercise.

3. Depending upon the number of students and available manikins or victim, the students should be separated into small groups. Each group can be assigned a skill to practice or all groups can practice the same skill at the same time.

4. Students in the group should be asked to help other students, if assistant instructors are not available. Often times, students can communicate with other students in a more efficient manner than the instructor.

During the practice session, the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills.

2. Should assist any and all students during their practice to:

   A. Correct any incorrect procedures, point out errors.
   B. Provide "hints" on ways to recall the correct procedures.

3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedure with them -- repeating the demonstrations.

4. Should be careful not to occupy too much of the students' time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

The students have the following responsibilities:

1. To practice skills until they feel comfortable with the procedures.
2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

MEDICAL EMERGENCIES

PRACTICE SESSION #1

Divide the class into groups of two or three.

Equipment

1. "E" Oxygen Cylinder
2. Oxygen Mask
3. Nasal Cannulas
4. Straight Back Chair
5. Multi-Level Ambulance Cot
6. Blood Pressure Cuff
7. Stethoscope

Skills

1. Management of Cardiac-Related Problems
2. Respiratory Related Problems
3. Cerebrovascular Accident
4. Diabetic States
5. Poisoning
6. Convulsive States
7. Acute Abdomen

Note: This session will require the students to employ skills learned previously in the course including:

1. Primary survey techniques
2. Secondary survey techniques
3. Administration of oxygen
4. Two-man lift
5. Three-man lift

New skills that will be used will include:

1. Chair lift

The instructor should have assistant instructors or other individuals (preferably not students) act as victims simulating the assigned illness. Students should rotate from victim to victim until all problems have been managed. If enough victims (seven) are not available, the instructor may use a limited number of victims for two or three different simulated problems at different times.

MEDICAL EMERGENCIES

Student's Name____________________________

Passed______________Failed________________

SKILL EVALUATION #1 - ADMINISTRATION OF OXYGEN (REVIEW)

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The rescuer will set up oxygen delivery system and demonstrate the administration of oxygen to an adult patient experiencing dyspnea as outlined and to the satisfaction of the instructor:

_____A. Visually observe for "100% USP" marking

_____B. Remove protective cap from tank

_____C. Apply regulator and flow meter to tank with flow gauge in off position

Note to Instructor: Provide nasal cannula and mask and require students to select best device based on patient's need for oxygen.

_____D. Determine best oxygen administration device (Mask should be selected. The students should tell the instructor why selection was made.)

_____E. "Crack" the tank and adjust regulator to deliver 6-8 liters per minute

_____F. Explain procedures to patient

_____G. Apply mask to patient by forming a good seal and adjusting straps

Note to Instructor: Inform student that the patient is resisting the mask and says it feels as if he/she is suffocating.

_____H. Remove mask from patient's face immediately

_____I. Select nasal cannula as next best method available and connect to regulator

_____J. Adjust regulator to deliver 6-8 liters per minute

_____K. Explain procedures to patient

_____L. Apply nasal cannula to patient, placing prongs in proper position and by adjusting cannula for a comfortable patient fit

Note to Instructor: Instruct student to stop administration of oxygen and store equipment for future use.

_____M. Remove cannula from patient's face

_____N. Turn off oxygen and disconnect cannula tubing from regulator

_____O. "Bleed" gauge and return gauge to off position

MEDICAL EMERGENCIES

Student's Name____________________________

Passed________________Failed_____________

SKILL EVALUATION #2 - TWO-MAN AND THREE-MAN LIFTS

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The rescuer will demonstrate, with the assistance of one or two fellow students, the two-man and three-man lifts on a 150 to 200 pound patient as outlined and to the satisfaction of the instructor:

_____A. Explain procedure to patient

_____B. Place hands and arms in proper position under patient

_____C. Lift smoothly and in a manner coordinating with other students

_____D. Roll patient toward rescuer's chest

_____E. Place patient on ambulance cot, maintaining level position

MEDICAL EMERGENCIES

Student's Name______________________________

Passed________________Failed_____________

SKILL EVALUATION #3 - CHAIR LIFT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The rescuer will demonstrate, with the assistance of one other student on a 150 to 200 pound patient, the chair lift as outlined and to the satisfaction of the instructor:

_____A. Explain procedure to patient

_____B. Lift patient from a bed to the chair by lifting under armpits and under knees

_____C. Rock chair backwards to prepare for lift

_____D. Lift chair placing hands at highest and lowest points on chair back supports and front legs respectively

_____E. Transport patient in a "feet first" position on level terrain, up, or down steps

_____F. Terminate lift and transport by lowering the back legs of the chair to the floor first and gradually lowering the front legs to the floor

MEDICAL EMERGENCIES

TASK I

ELEMENTS	EXPLANATION
	Assumes rescuer has determined a Medical Emergency is indicated and is the priority problem to be treated. Assumes the rescuer has gathered the following information from the patient, family, or bystanders. A. Areas of pain and patient's perception of the problem. B. If anything like this has occurred before and if so, when and how often? C. If the patient has seen a doctor recently. D. If the patient is on any medication. E. How long this problem has been going on.
1. Determine patient's vital signs; blood pressure, pulse, respiration. (See task, "Diagnostic and Vital Signs" in Module III)	In medical illnesses, the vital signs are extremely important for evaluation purposes.
2. Combine all information gathered and determine which type of medical problem is present. (If cardiac related, LOOP 1) (If respiratory related, LOOP 2) (If C.V.A., LOOP 3) (If diabetic state, LOOP 4) (If poisoning, LOOP 5) (If convulsive state, LOOP 6) (If acute abdomen, LOOP 7) (If communicable disease, LOOP 8) (If hyperthermic, LOOP 9) (If hypothermic, LOOP 10)	Some symptoms may be common to all illnesses while some symptoms are unique to other illnesses. All symptoms must be combined and analyzed to determine the probable nature of the patient's medical problem.
3. Treat for shock. (See appropriate task in Module III)	
4. Determine if all problems have been treated. (If all problems have not been treated, go to task, "Multi-Problem Triage" in Module XII)	
5. Determine if patient is in life-threatening condition. If yes, prepare to transport. (Go to task "Transportation")	

MEDICAL EMERGENCIES

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
6. Determine if all patients have been treated. (If no, go to task "Multi-Patient Triage" in Module XII)	
7. Prepare to transport. (Go to task, "Transportation" in Module VIII)	

MEDICAL EMERGENCIES

LOOP 1

Cardiac-Related Medical Problem

ELEMENTS	EXPLANATION
	Assumes the rescuer has evaluated the problem to be cardiac-related.
1. Keep patient still.	Regardless of the coronary problem encountered by the patient, the heart is not operating under normal conditions since some of the heart tissue has been damaged. Any movement by a patient who has recently experienced a coronary results in additional strain on a heart which is already injured. In an ischemic heart (a heart lacking sufficient oxygen), any movement by the patient will result in a decrease of the oxygen already moving to the heart. Since the heart is in such a critical state, it must receive the maximum amount of oxygen available. Activities such as the patient raising an arm may be sufficient to cause additional damage to the heart, resulting in cardiac arrest.
2. Determine if the patient is: A. Experiencing sub-sternal chest pain radiating down the left arm (or both arms) B. Shortness of breath C. Nauseated D. Cold and clammy E. Anxious F. Cyanotic G. Experiencing edema (fluid retention in the tissues) in the extremities, or, H. Experiencing acute pulmonary edema.	Many of the symptoms may appear in both a myocardial infarction and in congestive heart failure. However, the outward appearance of these two heart problems is quite different. The myocardial infarction patient is often doubled over with the extreme angina pectoris, while the heart failure patient is exhausted and gasping for as much air as he/she can get.
3. Place the patient in a sitting position or very slightly reclining position if it is more comfortable for the patient.	A semi-reclining position is usually the best position to allow the patient to breathe comfortably.
4. Administer oxygen. (See task, "Oxygen Therapy" in Module II)	Angina pectoris is caused by a decreased blood supply to the heart muscle because of the narrowing of the coronary artery, resulting in decreased blood flow and oxygen to the heart.

MEDICAL EMERGENCIES

LOOP 1 (CONTINUED)

Cardiac-Related Medical Problem

ELEMENTS	EXPLANATION
5. *If* patient is suffering from angina pectoris, his/her own nitroglycerine may be used to alleviate his or her condition.	Patients who experience angina pectoris rather frequently may have nitroglycerine tablets which are placed under their tongue and allowed to dissolve. Nitroglycerine is theorized to be effective because it: 1. dialates the coronary artery allowing a greater blood volume to reach the heart; or, 2. dialates peripheral vessels, allowing pooling and reducing work load on the heart.
6. Monitor patient's condition and vital signs. (Go to Task Element #3)	When a patient has experienced a myocardial infarction, he/she may go into cardiac arrest immediately after the attack or at any time during the period of initial care and transportation. As a result of this high probability of an arrest situation, the rescuer must be very careful to observe any increase in the seriousness of the patient's condition.

MEDICAL EMERGENCIES

LOOP 2

Respiratory-Related Medical Problems

ELEMENTS	EXPLANATION
	Assumes that the rescuer has evaluated the problem to be respiratory-related.
1. Place the patient in a sitting or slightly reclining position.	The patient should be positioned such that he/she is most comfortable and has the least difficulty breathing.
2. Assist the patient in self administration of any drugs prescribed by personal physician, if the patient requests it.	If the patient is not conscious, do not administer any drugs.
3. Administer oxygen. (See "Oxygen Therapy" task in Module II)	The amount of oxygen administered is not dependent upon the origin of the patient's problem. If the patient is suffering from emphysema and is hypoxic, oxygen flow should be kept at 6-8 L/minute through a nasal cannula or oxygen mask, even though the increased oxygen supply may cause respiratory arrest. Patient's suffering from emphysema should be monitored closely. All other patients should receive oxygen at a flow-rate of 6-8 L/minute.
4. Reassure the patient and attempt to relieve any anxiety.	
5. Monitor patient's respiration and vital signs. (Go to Task Element #3)	

MEDICAL EMERGENCIES

LOOP 3

Cerebrovascular Accident

ELEMENTS	EXPLANATION
	Assumes the rescuer has determined a C.V.A. is indicated by one or more of the following signs: A. Partial paralysis B. Elevated blood pressure C. Unequal pupils D. Convulsion, and/or, E. Loss of control of body function.
1. Determine which critical functions of the patient's body have been affected by the C.V.A. by observing for: A. Difficulty in breathing B. Paralysis of one or both sides of the body C. Difficulty in speaking D. Difficulty in swallowing E. Loss of bladder control, or, F. Loss of bowel control.	
2. Elevate the patient's head and shoulders to assist in breathing, and decrease blood pressure in skull.	Any movement should be very gentle since the confusion and anxiety experienced by the patient will be aggravated by excessive movement of a C.V.A. patient.
3. Administer oxygen. (See task "Oxygen Therapy" in Module II)	A portion of the patient's brain is suffering from an oxygen deficiency and oxygen administration by mask will provide additional support to the injured area.
4. Do not administer anything by mouth. (Go to Task Element #3)	

MEDICAL EMERGENCIES

LOOP 4

Diabetic Emergencies

ELEMENTS	EXPLANATION
	Assumes patient is in some diabetic state as determined by the rescuer.
1. Determine the nature of the patient's diabetic state by: A. Asking the patient or his/her family about the exact nature of the problem. B. Asking if the patient has taken insulin at the normal time. C. If the patient has eaten. (If the patient is not able to communicate, and there is no one familiar with his/her condition, go to LOOP 4, Element #2.)	The patient and his/her family or friends will provide valuable information concerning the patient's general medical (diabetic in this case) history as well as the situation leading to the immediate problem. If the patient has taken insulin but has not eaten, he/she is probably going into insulin shock. If the patient has neglected to take insulin, he/she is probably entering a diabetic coma.
2. Combine all diagnostic information gathered and determine the exact nature of the diabetic state (i.e., diabetic coma or insulin shock).	No single piece of diagnostic information should be considered conclusive without combining all information available. The hyperglycemic patient (too much sugar, not enough insulin) can be characterized by the following major symptoms: A. An acetone (sweet or fruity) breath odor B. Dehydrated, warm skin C. A rapid, weak pulse D. Rapid, deep breathing in an attempt to obtain oxygen E. Varying degrees of semi-consciousness or unconsciousness The hypoglycemic patient (too much insulin, not enough sugar) has a condition which is a result of either a diabetic's failure to eat or an overproduction of insulin by the pancreas. This diabetic state is characterized by: A. Pale, moist skin B. Strong, rapid pulse C. Normal breathing D. Headache with dizziness E. Fainting F. Seizures

MEDICAL EMERGENCIES

LOOP 4 (CONTINUED)

Diabetic Emergencies

ELEMENTS	EXPLANATION
3. The patient in a diabetic coma must be transported to a medical facility as rapidly as possible for proper insulin administration.	
4. The patient in insulin shock (low blood sugar) should receive some type of sugar solution by mouth (e.g., orange drink, soft drink, or candy bar). (If patient is unconscious, go to LOOP 4, Element #5)	
5. If a patient is unconscious or semi-conscious and it is not possible to determine the exact nature of the problem, sugar should be given by placing sugar substance under the patient's tongue. The substance must be something that will dissolve rapidly in the mouth so that it may be absorbed by the body (e.g., a cube of sugar).	The small amount of sugar administered at this time will not cause serious complications in a diabetic coma patient, while this may save the life of a patient in insulin shock. Care must be observed to prevent any sugar substance from blocking the patient's airway.
4. Monitor patient's condition and vital signs (see appropriate task). (Go to Task Element #3)	

MEDICAL EMERGENCIES

LOOP 5

Poisoning

ELEMENTS	EXPLANATION
	Assumes the rescuer has determined that some type of poisoning has occurred.
Quickly examine the victim and the area around the victim to determine the nature of the poisoning.	Question any witnesses about how the victim was poisoned and with what kind of poison. The symptoms and sources of the various kinds of poisoning are: A. Poisons absorbed through the skin surface: irritation of the skin and mucous membrane and inflammation of the eyes. Caused by household cleaners and insecticides. B. Poisons inhaled through the nose: Shortness of breath, coughing, and cyanosis. Caused by sprays, cleaning fluid, carbon monoxide and gas. C. Poisons ingested through the mouth: Abdominal pain, nausea, vomiting, cramping, stains around or in the mouth, chemical odor of poison, drowsiness or deep sleep, depressed respiration, circulation rate, and unconsciousness. Caused by rat poison, lye, and drain cleaners. D. Poisons injected through the body tissue or the bloodstream: delirium, pain, tenderness, and swelling at injection site, unconsciousness, and depressed or failed respiration and circulation. Caused by drugs and spider and snake bites.
If poison is being inhaled, remove the victim from the danger area immediately. Expose victim to fresh air. (Go to LOOP 5, Element #9)	Clear the danger area of all people. Poison in the air will affect people and air-breathing animals.
(If poison has been injected (drugs snake or spider bites) through body tissue or the bloodstream, go to LOOP 5, Element #5)	
(If poison has been ingested through the mouth (swallowed), go to LOOP 5, Element #7)	

MEDICAL EMERGENCIES

LOOP 7

Acute Abdomen

ELEMENTS	EXPLANATION
	Assumes the rescuer has determined that acute abdomen is indicated by one or more of the following signs: A. Abdominal pain, local or diffused B. Abdominal tenderness, either local or diffused C. A quiet patient that does not want to move due to extreme pain on movement D. Short, rapid respirations E. Tachycardia (rapid pulse) F. Low blood pressure G. A distended and often tense abdomen
1. Determine if the patient's condition is the result of acute abdominal disease by: A. Looking at the abdomen to determine presence of distention B. Feeling the patient's abdomen to see if it is tense, rigid, or soft C. Asking the patient to relax abdomen D. Determine if it is tender to the touch	The examination should not be prolonged since little can be done by the rescuer at the scene. A similar examination in greater depth will be performed by the physician in the hospital. If the patient is more comfortable with either the right knee drawn up or both knees drawn up, there is a good possibility that the patient may be suffering from appendicitis. The patient with pancreatitis tends to lie in a curled up position on the right side. If breathing is painful, severe peritonitis may exist.
2. Administer oxygen. (See task "Oxygen Therapy" in Module II)	Patients with acute abdominal problems may be losing fluid internally, and oxygen administration will enrich the oxygen available in the body.
3. Observe for vomiting and report the nature of the vomitus to the medical staff at the hospital.	Aspirate as necessary.
4. Place the patient in a prone position and treat for shock. (See "Treatment of Shock" in Module III)	The acute abdomen patient often goes into deep shock and may experience a massive vascular collapse.
5. Give nothing by mouth (including any prescribed medication for pain)	Ingested substance may aggravate the problem and medication may "mask" the symptoms needed for effective physician diagnosis.

MEDICAL EMERGENCIES

LOOP 7 (CONTINUED)

Acute Abdomen

ELEMENTS	EXPLANATION
6. Observe patient's condition and vital signs. (See appropriate task) (See Task "Vital Signs" in Module III)	

MEDICAL EMERGENCIES

LOOP 8

Communicable Diseases

ELEMENTS	EXPLANATION
	Assumes patient has some type of communicable diease.
1. If it can be determined that the patient to be transported is suspected of having a communicable disease, remove all unessential equipment from the ambulance.	This does not imply "stripping" the vehicle of all equipment, but means removing those portable items which are highly susceptible to contamination (e.g., extra blankets, portable suction units, etc.)
2. Determine if the disease may be of a highly contagious nature (e.g., scarlet fever, meningitis, or typhoid fever) by gathering patient's history information and consulting with the family.	
3. If there is the slightest possibility of danger to the rescuer, a surgical mask should be applied and disposable clothes should be worn. (Go to Task Element #3)	As soon as patient care responsibility has ended, the rescuer should consult with a physician familiar with the case in question and determine if there is any danger to the health of all rescuers exposed to the patient. The vehicle should be cleaned as prescribed by a physician, clothes either washed or burned as prescribed, and the rescuer should take every precaution to avoid contamination. A patient with a communicable disease should not be transported with other patients if at all possible.

MEDICAL EMERGENCIES

LOOP 9

Hyperthermia

ELEMENTS	EXPLANATION
	Assumes that the patient has been surveyed and is hyperthermic.
1. Determine severity of the patient's condition by evaluating the patient's vital signs for the following symptoms: A. Unconsciousness B. Hot, dry and flushed skin C. Shallow respirations D. Full, rapid pulse E. Convulsions (If any or all of these symptoms are present, go to LOOP 9, Element #7.)	The most severe hyperthermic condition involves a serious inability of the body to regulate heat, resulting in heat stroke. Unconsciousness, reddish dry skin, elevated body temperature, rapid pulse, and convulsions differentiate this hypervolemic state from the less serious conditions (i.e., heat exhaustion and cramps). If any of these symptoms appear, the patient should be treated as if he/she is experiencing heat stroke, a true life-threatening emergency.
2. Determine if patient is experiencing heat exhaustion and/or heat cramps by evaluating vital signs for the following symptoms: A. Fainting B. Weak, slow pulse C. Cool, moist skin D. Normal body temperature E. Abdominal or extremity muscle cramps with severe pain	It is possible that the heat exhaustion or heat cramp patient could progress to heat stroke condition. All hyperthermic patients should be monitored closely for a change of condition.
3. Increase the convection activity of the patient by removing him/her to a cooler environment or by fanning the patient. (If the patient involved is participating in a sporting event, a cool shower may alleviate some pain due to cramps.) The patient should not be chilled. (If patient is not experiencing cramps, go to LOOP 9, Element #5.)	Hyperthermic patients are usually found in or near a high temperature, high humidity area. If they have not been taken to a cooler location (e.g., into an air-conditioned car or building or away from a furnace in a steel mill), remove them to a cooler environment. If they cannot be moved to such an area (e.g., no cooler location available), the rescuer should fan the patient, allowing air to pass over exposed skin and increase convection activity.
4. Massage cramped muscle firmly but not in such a manner that pain is increased. The muscle should be massaged in an extended position, if possible.	The cramped muscle often assumes a flexed position which is usually the most painful. The muscle must be gently extended as it is massaged, since rapid extension could result in a tearing of muscle tissue.

MEDICAL EMERGENCIES

LOOP 9 (CONTINUED)

Hyperthermia

ELEMENTS	EXPLANATION
5. Administer a cool salt water solution in small amounts to the patient by mouth.	Salt may be mixed with water (1 tsp. of salt per 1 qt. of water) and given to the patient in an attempt to replace the salt lost through the perspiration of the hyperthermic patient.
6. Continue to monitor patient for diagnostic signs which may indicate the onset of heat stroke. (If those signs appear, go to LOOP 9, Element #7) (If no such signs are present and transportation is needed, go to task "Transportation" Module VIII)	If the patient's condition becomes measurably improved and no other injuries or illnesses are involved, transportation to the hospital by ambulance may not be necessary. If there is any doubt as to the condition of the patient, that patient should be transported.
7. Maintain an open airway and prevent further injury to a convulsive patient by gently restraining the patient's movement.	Assumes the patient is experiencing heat stroke. Maintenance of an open airway is vitally important and is the only reason for which transportation to a medical facility should be delayed.
8. Move patient to a cooler environment if it has not already been done and attempt to lower body temperature rapidly by: A. Removing as much clothing as possible B. Wrap patient in a cool wet sheet C. Apply cold packs to armpits, groin, and neck. (Go to Task Element #3)	Body temperature must be lowered as rapidly as possible to reduce the possibility of brain damage. The ambulance (especially if air-conditioned) is one of the best places to perform all body cooling processes due to the privacy afforded and the fact that the patient can be enroute to a medical facility.

MODULE VIII

PATIENT HANDLING

PATIENT HANDLING

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the student will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80 percent of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a list of ways to lift and move patients, the student will be able to correctly identify the best procedure to use when only one rescuer is available to lift and move a patient who is in imminent danger, suspected of having spinal damage, and is conscious.

2. Given a list of procedures to lift and move patients, the student will be able to correctly identify the best procedure(s) to use when only one rescuer is available to lift and move an unconscious patient with no suspected spinal injuries who is in imminent danger.

3. Given a list of procedures to lift and move patients, the student will be able to correctly identify the best procedure to use when only one rescuer is available to lift and move a conscious patient with no suspected spinal injuries who is in imminent danger.

4. Given a list of procedures to lift and move patients, the student will be able to correctly identify the best procedure(s) to use when only two rescuers are available and used to lift and move a conscious patient with no suspected spinal damage who is in imminent danger through:

   A. A narrow hallway
   B. Open or unrestricted space

5. Given a list of procedures to lift and move patients, the student will be able to correctly identify the procedure to use which provides the most support when more than two rescuers are available and used to lift and move a conscious patient who is not in imminent danger but is suspected of having spinal damage.

6. Given a list of procedures to lift and move patients, the student will be able to correctly identify the second best procedure to use when more than two rescuers are available and used to lift and move a conscious patient who is not in imminent danger but is suspected of having spinal damage.

7. Given a list of procedures to lift and move patients, the student will be able to correctly identify the procedure to use when two rescuers are available and used to lift and move a conscious patient through a narrow space when the patient has no suspected spinal injury and is not in imminent danger.

8. Given a list of procedures to lift and move patients, the student will be able to correctly identify the procedure to use when lifting a conscious patient with no suspected spine injury to a stretcher.

PATIENT HANDLING

KNOWLEDGE OBJECTIVES (CONTINUED)

9. Given a list of positions, the student will be able to correctly identify the initial position of both rescuers when performing the two-man lift.

10. Given a list of hand and arm locations, the student will be able to correctly identify the location of hands and arms of both rescuers when performing the two-man lift relative to the patient's body.

11. Given a list of reasons, the student will be able to correctly identify the reason(s) for moving or extending the patient's arm over his/her head when rolling a patient onto a blanket to move the patient using the blanket drag technique.

12. Given a list of numbers of rolls, the student will be able to correctly identify the number of rolls a patient is given using the blanket drag technique, when the patient is found in the supine position.

13. Given a list of patient head positions and/or heights, the student will be able to correctly identify the patient's head position or height from the ground when using the blanket drag technique for a patient with a suspected spinal injury.

14. Given a list of hand and arm positions and a list of directions, the student will be able to correctly identify the hand and arm positions of the rescuer when using the blanket drag to move a patient down a flight of stairs. In addition, the student will be able to correctly identify the direction in which the patient should be taken down the flight of stairs.

15. Given a list of cautions, the student will be able to correctly identify the most important caution to be aware of when using the clothes drag technique.

16. Given a list of techniques to lift and move patients, the student will be able to correctly identify the technique which requires the patient's hands to be tied.

17. Given a list of techniques to lift and move patients, the student will be able to correctly identify the technique which requires the patient's armpits to be directly over the rescuer's shoulders.

18. Given a list of positions, the student will be able to correctly identify the position of the blanket during the first few steps of the traction blanket lift.

19. Given a list of criteria, the student will be able to correctly identify the criteria to use when assigning patients to vehicles.

PATIENT HANDLING

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given a fellow student posing as a conscious victim in imminent danger and the supine position with a suspected spinal injury, and a blanket, the student will be able to lift and move the patient using the blanket drag technique. Successful performance involves dragging the patient on a level surface at least ten (10) feet without causing further injury to the victim.

2. Given a fellow student posing as an unconscious victim in a supine position (with no suspected spinal injury) who is in imminent danger, the student will lift and move the patient using the fireman's carry technique. Successful performance involves moving the patient at least ten (10) feet.

3. Given a fellow student posing as an unconscious victim in a supine position (with no suspected spinal injury) who is in imminent danger, the student will lift and move the patient using the fireman's drag technique. Successful performance involves moving the patient at least ten (10) feet.

4. Given a fellow student posing as a conscious victim in imminent danger (with no suspected spinal injury), the student will lift and move the patient using the pack-strap carry technique. Successful performance involves moving the patient at least ten (10) feet.

5. Given a fellow student posing as a conscious victim in imminent danger (with no suspected spinal injury) and a fellow student as an assistant, the student and the assistant will lift and move the patient using the extremities carry technique. Successful performance involves moving the patient at least ten (10) feet. The student will assume that the assistant is not a trained rescuer and is not familiar with the technique.

6. Given a fellow student posing as a conscious victim in imminent danger (but with no suspected spinal injury) and a fellow student as an assistant, the student and the assistant will lift and carry the patient using the seat carry technique. Successful performance involves moving the patient at least ten (10) feet. The student will assume that the assistant is not a trained rescuer and is not familiar with the technique.

7. Given a fellow student posing as a conscious victim with a suspected spinal injury (but not in imminent danger), a blanket, a portable stretcher, cervical collar, and five fellow students as assistants, the team will lift and carry the patient using the traction blanket lift technique. Successful performance involves moving the patient at least ten (10) feet.

PATIENT HANDLING

INSTRUCTOR ACTIVITIES

In order to assist the student in attaining the specified skill and knowledge objectives, the instructor will:

1. Distribute the Student Activity sheet and handouts during the class period prior to beginning this module. Assignments are:

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 439-504, 64-76.

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 199-214.

2. This module is planned for 6 hours. The lecture will involve the use of slides and filmstrips. The content of the lecture is specified in the Module Outline.

   A. Slides are from the EMERGENCY CARE SERIES, Robert J. Brady Company, Unit 10.

   B. Filmstrips: EMERGENCY MEDICAL CARE SERIES, by Trainex

      (1) Moving the Sick and Injured, Program No. 395

   C. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc., Unit 13

      (1) Immobilizing and Packaging

   D. References:

      (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons,) (1977). 2nd Edition. Pages: 367-378.
      (2) Basic Life Support Skills Manual, by Charles Phillips, M.D., Robert J. Brady Company, (1977). Page: 139.
      (3) Advanced First Aid and Emergency Care, the American National Red Cross, (1973). Pages: 255-284.

   E. Alternative Learning Resources:

      A. Filmstrips: EMERGENCY MEDICAL CARE SERIES, by Trainex

         (1) Moving the Sick and Injured, Program No. 395

      B. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc., Unit 13

         (1) Immobilizing and Packaging

3. Prepare notes and conduct the demonstration sessions. The demonstrations consist of:

   A. Blanket drag technique
   B. Fireman's carry technique
   C. Fireman's drag technique
   D. Pack-strap technique
   E. Extremities carry technique
   F. Seat carry technique
   G. Traction blanket carry technique

   In addition, the following demonstrations will be reviewed:

   A. Two-man lift technique
   B. Straddle slide technique
   C. Log roll technique
   D. Chair carry technique
   E. Use of multi-level stretcher
   F. Use of orthopaedic stretcher
   G. Use of long spine board
   H. CPR in transport

   NOTE: Item A is discussed in the Basic Life Support and Primary Survey Module; Items D and E are discussed in the Medical Emergencies Module; Items B, C, F, and G are discussed in the Central Nervous System Trauma Module; and Item H is discussed in the Basic Life Support Module.

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

5. After the practice session and lecture, the instructor will evaluate the student's ability to perform each of the skills. The student's skill can be evaluated separately or collectively. In addition, each student will be required to take a written examination. After completing the evaluation, the instructor will advise the student on his/her progress and suggest alternative learning resources, if appropriate.

PATIENT HANDLING

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and Chalkboard
Slide Projector
Screen
Filmstrip/cassette machine

Medical

Multi-Level Stretcher
Long Spine Board (one for every 10 students)
Orthopaedic Stretcher (one for every 10 students)
Portable Stretcher (one for every 10 students)
Blankets (one for every 4 students)
Cravats (one for every 4 students)
Chair (one for every 4 students)

HANDOUTS

Task Sheets
Skill Development Checklist
Skill and Knowledge Objectives
Skill Evaluation Sheets
Written Examination

AUDIOVISUALS

Slides: Emergency Care Series, by Brady. Unit 10 (Slides 1 to 19)

Filmstrips: Emergency Medical Care, by Trainex: Program No. 395

BASIC SKILLS FOR THE EMT, by Emergency Training, Inc. Unit 13

PATIENT HANDLING

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material assigned prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 64-76, 439-504.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 199-214.

3. Student Skill Development Checklist for Patient Handling. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

4. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

5. Alternative Learning Resources

   A. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.
      (1) Immobilizing and Packaging for Extrication, Unit 13

   B. Filmstrips: EMERGENCY CARE SERIES, by Trainex
      (1) Moving the Sick and Injured, Program No. 395

6. Student Skill Development Checklist begins on next page.

PATIENT HANDLING

6. Before leaving this module the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTORS INITIAL
Performance Skills:			
A. Blanket drag			
B. Fireman's carry			
C. Fireman's drag			
D. Pack Strap carry			
E. Two-man extremities carry technique			
F. Two-man seat carry			
G. Traction blanket lift			
Review:			
H. Two-man lift			
I. Four-man log roll			
J. Straddle slide			
K. Chair carry			
L. Multi-level stretcher			
M. Orthopaedic stretcher			
N. Portable stretcher			

PATIENT HANDLING

LECTURE TOPICS	REFERENCES
I. Selection of moving techniques	Task I, Elements 1-8
A. Factors	
1. Patient condition	
2. Types of injuries	
3. Imminent danger present	
4. Spinal cord damage	
II. Emergency techniques - imminent danger present	
A. One rescuer (technique)	
1. Blanket drag - Demonstration #1	LOOP 1
2. Clothes drag - Demonstration #1	LOOP 1
3. Fireman's carry - Demonstration #2	LOOP 2
4. Fireman's drag - Demonstration #3	LOOP 2
5. Pack-strap carry - Demonstration #4	LOOP 3
B. Two rescuers (technique)	
1. Two-man seat carry - Demonstration #6	LOOP 5
2. Two-man extremities carry - Demonstration #5	LOOP 4
III. Non-Emergency carries and lifts	
A. Two-man lift (no spinal trauma)	Task I, Elements 9-13
B. Lifts for patients with suspected spinal trauma	
1. Log roll (Review)	LOOP 7
2. Straddle-slide (Review)	LOOP 7
3. Traction-blanket - Demonstration #7	LOOP 6
C. Chair carry	LOOP 8

PATIENT HANDLING

LECTURE TOPICS	REFERENCES
IV. Lifting and moving devices	
A. Long spine board (Review)	LOOP 12
B. Orthopaedic stretcher (Review)	LOOP 11
C. Portable stretcher (Review)	LOOP 3, Module V
D. Stokes basket (Review)	
E. Multi-level stretcher (Review)	Module II, Demonstration #11
V. Improvised litters	LOOP 4, Module V
A. Blanket	
B. Jacket	
C. Fire Hose (rope)	
VI. Transportation	Task II
A. Multi-patient transportation	LOOP 9
B. CPR transportation (Review)	LOOP 10

PATIENT HANDLING

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material assigned prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 64-76, 439-504.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 199-214.

3. Student Skill Development Checklist for Patient Handling. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

4. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

5. Alternative Learning Resources

   A. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc.
      (1) Immobilizing and Packaging for Extrication, Unit 13

   B. Filmstrips: EMERGENCY CARE SERIES, by Trainex
      (1) Moving the Sick and Injured, Program No. 395

6. Student Skill Development Checklist begins on next page.

PATIENT HANDLING

6. Before leaving this module the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTOR'S INITIAL
Performance Skills:			
A. Blanket drag			
B. Fireman's carry			
C. Fireman's drag			
D. Pack Strap carry			
E. Two-man extremities carry technique			
F. Two-man seat carry			
G. Traction blanket lift			
Review:			
H. Two-man lift			
I. Four-man log roll			
J. Straddle slide			
K. Chair carry			
L. Multi-level stretcher			
M. Orthopaedic stretcher			
N. Portable stretcher			

PATIENT HANDLING

LECTURE TOPICS	REFERENCES
I. Selection of moving techniques	Task I, Elements 1-8
A. Factors	
1. Patient condition	
2. Types of injuries	
3. Imminent danger present	
4. Spinal cord damage	
II. Emergency techniques - imminent danger present	
A. One rescuer (technique)	
1. Blanket drag - Demonstration #1	LOOP 1
2. Clothes drag - Demonstration #1	LOOP 1
3. Fireman's carry - Demonstration #2	LOOP 2
4. Fireman's drag - Demonstration #3	LOOP 2
5. Pack-strap carry - Demonstration #4	LOOP 3
B. Two rescuers (technique)	
1. Two-man seat carry - Demonstration #6	LOOP 5
2. Two-man extremities carry - Demonstration #5	LOOP 4
III. Non-Emergency carries and lifts	
A. Two-man lift (no spinal trauma)	Task I, Elements 9-13
B. Lifts for patients with suspected spinal trauma	
1. Log roll (Review)	LOOP 7
2. Straddle-slide (Review)	LOOP 7
3. Traction-blanket - Demonstration #7	LOOP 6
C. Chair carry	LOOP 8

PATIENT HANDLING

LECTURE TOPICS	REFERENCES
IV. Lifting and moving devices	
A. Long spine board (Review)	LOOP 12
B. Orthopaedic stretcher (Review)	LOOP 11
C. Portable stretcher (Review)	LOOP 3, Module V
D. Stokes basket (Review)	
E. Multi-level stretcher (Review)	Module II, Demonstration #11
V. Improvised litters	LOOP 4, Module V
A. Blanket	
B. Jacket	
C. Fire Hose (rope)	
VI. Transportation	Task II
A. Multi-patient transportation	LOOP 9
B. CPR transportation (Review)	LOOP 10

PATIENT HANDLING

DEMONSTRATION #1: BLANKET DRAG TECHNIQUE

Using a student, demonstrate the following skills:

1. Do primary survey.

2. Explain conditions when blanket drag technique is used:

   A. Patient in imminent danger
   B. Suspected spinal cord damage

3. Demonstrate technique using a student posing as the victim in the supine position:

   A. Explain and demonstrate location and how to pleat blanket
   B. Explain and demonstrate how to roll patient on blanket
      (1) position of patient's arm
      (2) direction patient is rolled in reference to blanket position
      (3) how to slide blanket
      (4) repeating of steps
   C. Explain and demonstrate how to drag patient
      (1) location of force
      (2) position of rescuer

4. Explain and demonstrate alternate technique if blanket is not available:

   A. Avoid obstructing airway
   B. Location of force
   C. Position of rescuer

5. Explain technique when moving patient down flight of stairs:

   A. How to grip patient
   B. How to support cervical spine
   C. What is direction going down (head first)

DEMONSTRATION #2: FIREMAN'S CARRY TECHNIQUE

Using a student, demonstrate the following skills:

1. Do primary survey.

2. Explain conditions when fireman's carry technique is used:

   A. One rescuer
   B. Imminent danger
   C. No suspected spinal injury

3. Explain and demonstrate the technique using a student posing as a victim:

   A. Explain and demonstrate location of patient's knees before lifting
   B. Explain and demonstrate how and where to grasp the patient

PATIENT HANDLING

DEMONSTRATION #2: (CONTINUED)

C. Explain and demonstrate position of rescuer's feet in relation to patient's feet
D. Explain and demonstrate how to pull or lift patient
E. Explain and demonstrate how to duck under patient's raised arm
F. Explain why motions ought to be done in a continuous motion

DEMONSTRATION #3: FIREMAN'S DRAG TECHNIQUE

Using a student, demonstrate the following skills:

1. Do primary survey.

2. Explain when fireman's drag technique should be used:

   A. Imminent danger
   B. No suspected spinal injury

3. Explain physical demands on rescuer; compare with fireman's carry technique.

4. Explain and demonstrate the technique using a student posing as a victim:

   A. Explain and demonstrate position of the patient
   B. Explain and demonstrate position of patient's hands
   C. Explain and demonstrate how to straddle the patient's body and pass through the patient's arms
   D. Explain and demonstrate how to lift the patient
   E. Explain and demonstrate how to move the patient

DEMONSTRATION #4: PACK-STRAP TECHNIQUE

Using a student, demonstrate the following skills:

1. Do primary survey.

2. Explain when pack-strap carry technique should be used:

   A. One rescuer
   B. Imminent danger
   C. Conscious patient
   D. No suspected spinal injury

3. Explain and demonstrate technique:

   A. Explain and demonstrate position of patient
   B. Explain and demonstrate location of rescuer in relation to patient
   C. Explain and demonstrate how to lift and move patient

PATIENT HANDLING

DEMONSTRATION #5: EXTREMITIES CARRY TECHNIQUE

Using a student, demonstrate the following skills:

1. Do primary and secondary surveys.

2. Explain when technique should be used:

    A. Condition of patient
    B. Number of rescuers required
    C. Condition of surroundings

3. Explain and demonstrate technique using a student as a victim and another student as an assistant:

    A. Explain and demonstrate position of patient's legs and knees
    B. Explain and demonstrate location of rescuers in relation to the patient
    C. Explain and demonstrate how the rescuers grasp the patient
    D. Explain and demonstrate how the rescuers lift and move the patient

DEMONSTRATION #6: SEAT CARRY TECHNIQUE

Using a student, demonstrate the following skills:

1. Do primary and secondary surveys.

2. Explain when technique should be used:

    A. Condition of patient
    B. Number of rescuers required
    C. Presence of imminent danger

3. Explain and demonstrate technique using a student posing as a victim and another student as an assistant:

    A. Explain and demonstrate position of patient
    B. Explain and demonstrate position of rescuers in relation to patient's position
    C. Explain and demonstrate how and where the rescuers grip the patient
    D. Explain and demonstrate how the patient is lifted and moved

DEMONSTRATION #7: TRACTION BLANKET LIFT TECHNIQUE

Using a student, demonstrate the following skills:

1. Do primary and secondary surveys.

DEMONSTRATION #7: (CONTINUED)

2. Explain when technique should be used:
   - A. Number of rescuers required
   - B. Condition of patient
   - C. No long board available

3. Explain and demonstrate technique using a student posing as a victim and five other students as assistants:
   - A. Explain and demonstrate how and why traction is applied and maintained
   - B. Explain and demonstrate how the blanket is folded
   - C. Explain and demonstrate position of blanket in relation to patient's head
   - D. Explain and demonstrate location of rescuers in relation to patient
   - E. Explain and demonstrate how to lift patient so that blanket can be positioned under patient
   - F. Explain and demonstrate how blanket is rolled
   - G. Explain and demonstrate how patient is lifted to portable stretcher

PATIENT HANDLING

PRACTICE SESSION FOR STUDENTS

After the lecture and demonstrations, students should be given the opportunity to practice their skills. The practice session can be conducted in one of several ways:

1. Students can be given the skill evaluation sheets as a job aid or to guide their practice, or they can use their notes taken during the lecture and demonstration. Students should be informed as to what materials and job aids they will be permitted to use.

2. If assistant instructors are available, they can be assigned to groups of students to ensure that the students understand the skill and procedures. If assistant instructors are used, the instructor should train and evaluate the assistant instructors on their ability to perform the required skills prior to the practical exercise.

3. Depending upon the number of students and available equipment, the students should be separated into small groups. Each group can be assigned a skill to practice covering all skill objectives, or all groups can practice the same skill at the same time.

4. Students in the group should be asked to help other students if assistant instructors are not available. Often times, students can communicate with other students in a more efficient manner than the instructor.

During the practice session, the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills. However, practice time should not exceed three hours.

2. Should assist any and all students during their practice to:

   A. Correct any incorrect procedures, point out errors
   B. Provide "hints" on ways to recall the correct procedures.

3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedure with them - repeating the demonstrations.

4. Should be careful not to occupy too much of the students' time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

The students have the following responsibilities:

1. To practice skills until they feel comfortable with the procedures.
2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

PATIENT HANDLING

PRACTICE SESSION #1

Equipment

1. Long spine board
2. Blankets
3. Cravats
4. Chair stretcher (or chair)

Dependent upon equipment available, divide the students into small groups and then practice the following maneuvers using fellow students as patients:

1. Blanket drag
2. Fireman's carry
3. Pack-strap carry
4. Two-man seat carry
5. Two-man extremities carry
6. Two-man lift (review)
7. Four-man log roll (review)
8. Straddle slide (review)
9. Traction blanket lift
10. Chair carry (review)

The instructor should monitor each of the groups and critique their performance. Those students acting as victims should simulate their injuries (i.e., spinal trauma, comatose).

PRACTICE SESSION #2

Equipment

1. Multi-level stretcher (review)
2. Orthopaedic stretcher (review)
3. Portable stretcher (review)
4. CPR transport (review)

According to equipment available, divide students into small groups and have the students practice the use of lifting and moving devices and the improvised litters. Each student should be given the opportunity to be a patient. Students acting as victims should simulate actual patient condition.

Instructor should monitor each of the groups.

PATIENT HANDLING

Student's Name ____________________

Passed ______________ Failed ________

SKILL EVALUATION #1: BLANKET DRAG TECHNIQUE

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedures to the satisfaction of the instructor.

_____A. Do primary survey and check for spinal trauma.

_____B. Lay blanket lengthwise next to patient, pleating approximately one-half of blanket that is next to patient.

_____C. Take patient's furthest arm and extend it over patient's head in a straight line.

_____D. Roll patient away from blanket.

_____E. Slide the pleated portion of blanket against patient's back, while supporting patient.

_____F. Lay patient on blanket.

_____G. Repeat steps C, D, E, and F.

_____H. Spread blanket evenly under the patient.

_____I. Return patient to starting position, lowering the arms, and wrap the patient in the blanket.

_____J. Drag patient by gripping the blanket directly behind the patient's head and neck at least ten (10) feet.

PATIENT HANDLING

Student's Name ______________________________

Passed ___________________ Failed ____________

SKILL EVALUATION #2: FIREMAN'S CARRY

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedure to the satisfaction of the instructor.

_____A. Do primary survey and check for spinal trauma.

_____B. Place patient on back with knees flexed.

_____C. Grasp patient by wrists.

_____D. Place your feet against patient's feet.

_____E. Pull upward and outward with arms.

_____F. As patient rises up, crouch down ducking under patient's raised arm.

_____G. Allow patient to fall on shoulders and return to standing position.

_____H. Move patient in this position at least ten (10) feet.

PATIENT HANDLING

Student's Name______________________________

Passed____________________Failed____________

SKILL EVALUATION #3: FIREMAN'S DRAG

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedure to the satisfaction of the instructor.

_____A. Do primary survey and check for spinal trauma.

_____B. Position patient on back.

_____C. Tie patient's hands together with cravat.

_____D. Straddle patient's body and pass your head through patient's arms.

_____E. Lift patient with your upper body.

_____F. Move patient at least ten (10) feet.

PATIENT HANDLING

Student's Name______________________________

Passed___________________Failed__________

SKILL EVALUATION #4: PACK-STRAP CARRY

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedure to the satisfaction of the instructor.

_____A. Do primary survey and check for spinal trauma.

_____B. Assist patient to standing position.

_____C. Stand in front of patient so that back is to patient.

_____D. Lift patient's arms over your shoulders and cross them in front of you.

_____E. Lean forward in hump-back position, holding patient's wrists with one hand.

_____F. Carry patient at least ten (10) feet.

PATIENT HANDLING

Student's Name ______________________________

____

Passed ____________________ Failed ______________

SKILL EVALUATION #5: EXTREMITIES CARRY

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedure to the satisfaction of the instructor.

_____A. Do primary and secondary survey.

_____B. Position patient on back with legs spread and knees flexed.

_____C. Rescuer at patient's feet grips the patient's wrists and pulls patient to a sitting position (other rescuer may help by lifting the patient's shoulders).

_____D. Rescuer at patient's head crouches down on one knee (supporting patient with other knee) and grips the patient around the torso.

_____E. Rescuer at patient's feet turns away from patient and grips the patient's legs behind the knees.

_____F. On command, the two rescuers lift patient and move patient at least ten (10) feet.

PATIENT HANDLING

Student's Name ______________________________

____

Passed ____________________ Failed __________

SKILL EVALUATION #6: SEAT CARRY

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedure to the satisfaction of the instructor.

_____ A. Do primary and secondary survey.

_____ B. Place patient in the supine position.

_____ C. Rescuers position themselves on either side of the patient.

_____ D. Rescuers grip patient's shoulders and lift patient to a sitting position (using hands nearest the patient's head).

_____ E. Rescuers grasp each other's wrist interlocking their arms behind the patient.

_____ F. Each rescuer slides the other arm around the patient's knees and grasps the other's wrist.

_____ G. On command, both rescuers lift the patient and make a secure seat for the patient.

_____ H. Move the patient at least ten (10) feet.

PATIENT HANDLING

Student's Name ______________________________

____

____

____

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Passed ____________________ Failed ____________

SKILL EVALUATION #7: TRACTION BLANKET LIFT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow student the following procedure to the satisfaction of the instructor.

_____A. Do primary and secondary survey.

_____B. A rescuer applies traction using a cervical collar.

_____C. Second rescuer folds a blanket widthwise into pleats, approximately one foot in width and positions it under patient's shoulders (placing top fold under knees of rescuer applying traction).

_____D. Two rescuers on command lift patient at shoulders (must coordinate with first rescuer).

_____E. Another rescuer pulls blanket under patient.

_____F. Rescuers roll edge of blanket to patient's sides.

_____G. Four rescuers position themselves, two on both sides of patient at shoulders and hips.

_____H. Lift patient on command by pulling blanket outward (must coordinate with rescuer applying traction).

_____I. Sixth rescuer (instructor) slides portable stretcher under patient and patient is lowered to stretcher.

_____J. Move patient at least ten (10) feet.

LIFTING AND MOVING PATIENTS IN SPECIAL CASES

TASK I

ELEMENTS	EXPLANATION
	Assumes that there is a patient to be lifted or moved. Further assumes that the following are available: Blanket Chair Long Board Cravat
1. Determine whether or not the patient is in imminent danger. (If the patient is not in imminent danger, go to Task Element #6)	
	Assumes the patient is in imminent danger.
2. Determine if there is more than one rescuer. (If there is more than one rescuer, go to Task Element #5)	
	Assumes there is only one rescuer.
3. Determine if there is spinal trauma suspected. (If more than one patient, go to LOOP 1)	
	Assumes no spinal trauma is present or suspected.
4. Determine if the patient is conscious. (If the patient is not conscious, go to LOOP 2) (If the patient is conscious, go to LOOP 3)	
	Assumes that two rescuers are available and the patient is in imminent danger.
5. Determine if the patient must be moved through a narrow opening or stairway. (If the patient must be moved through a narrow opening, go to LOOP 4) (If the patient does not have to be moved through a narrow opening, go to LOOP 5)	

LIFTING AND MOVING PATIENTS IN SPECIAL CASES

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
	Assumes that the victim is not in imminent danger, and a minimum of two rescuers are available to assist.
6. Determine if spinal trauma is suspected. (If spinal trauma is not present, go to Task Element #8.)	
	Assumes that spinal trauma is suspected.
7. Determine if a long board is available. (If a long board is not available, go to LOOP 6.) (If a long board is available, go to LOOP 7.)	
8. Determine if a chair should be used to transport patient and if one is available. (If the chair is to be used, go to LOOP 8.)	A chair should be used to transport patient up and down narrow stairs, or anywhere the stretcher is too bulky to maneuver.
	Assumes that the two-man lift is to be used to move the patient. The lift is often used to move the patient to the stretcher.
	Assumes two rescuers are available.
9. The rescuers position themselves on the same side of the patient.	
10. The rescuer closest to the head cradles the head and supports the shoulders by sliding an arm under the patient's opposite shoulder. The rescuer should then pass the other arm under the patient at the waist.	When doing this properly, the patient's head should be cradled in the elbow bend of the rescuer's arm.
11. The other rescuer supports the legs under the knees and then slides a hand under the patient beside the first rescuer's arm.	With heavier patients, it may be necessary for the first rescuer to lift slightly to allow the second rescuer to slide an arm under the patient.
12. The two rescuers then lift together upon command and roll the patient as a unit to the stretcher.	By rolling the patient toward them, the rescuers maintain better control of the patient.

LIFT AND MOVING PATIENTS IN SPECIAL CASES

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
13. When the rescuers are ready to lower the patient, they lower the patient as a unit to the stretcher.	
14. Determine if the patient requires further emergency treatment. (If the patient does require further treatment, then go to appropriate task.) (Go to Task "Transportation." Task II)	

TRANSPORTATION

TASK II

ELEMENTS	EXPLANATION
	Assumes that all treatment indicated has been initiated or completed at the scene and the patient(s) is (are) now ready to be transported to the hospital. Assumes also that the following equipment is available: A. multi-level stretcher B. 32" short-board C. 72" long-board D. scoop stretcher E. chair F. restraining straps G. blanket, pillow, sheets
1. Evaluate situation for transportation. (If more than one patient requires transportation, LOOP 1) (If CPR is being performed, LOOP 10) (If orthopaedic stretcher is selected, LOOP 11) (If long board (portable) is to be used, LOOP 12) (If chair is to be used, LOOP 13)	
	Assumes the patient is to be lifted by two men and transferred directly to a multi-level stretcher.
2. Position stretcher such that the head of the patient is at the foot of the stretcher (or vice versa).	
3. Lower side rail of stretcher on the side which the patient is to be loaded and remove upper sheet and blanket.	
4. Adjust stretcher to the proper level.	If the patient is on the ground, it will be easier if the stretcher is in the lowered position. In most other cases, the "up" position will be the easiest.
5. The two rescuers position themselves on the same side of the patient. The rescuer positioned at the patient's head should position	A minimum amount of movement should occur in preparing to lift the patient. If the patient is conscious, be sure to inform the patient what is going to

TRANSPORTATION

TASK II (CONTINUED)

ELEMENTS	EXPLANATION
his arm closest to the patient's head under the shoulders such that the patient's head rests in the bend of the elbow of the rescuer. Each rescuer then places an arm underneath the patient at the waist. The second rescuer positions his remaining arm underneath the patient's knees.	occur. When preparing to lift the patient, be sure that the patient's arms are under control, or when the patient is lifted, the loose arm will drop and make maneuvering the patient difficult.
6. Gently lift patient and roll patient toward the body.	By keeping the patient's body rolled in, it will be easier to maintain control.
7. Position patient on stretcher.	
8. Cover patient with sheet and blanket if the weather necessitates it. Cover patient's head with a towel but be sure not to cover patient's face or eyes.	The patient should not be unduly exposed to the weather during the transport. The rescuer must be extremely aware of this because the patient will usually be outside if only for a short period of time.
9. Adjust sitting angle of stretcher as indicated or requested by patient.	In many cases, the patient may be more comfortable in a semi-reclining position.
10. Wheel patient to vehicle.	When moving the stretcher, remember the following: A. Always go down stairs feet first with the stretcher in the "down" position. B. When wheeling patient, have stretcher in the "up" position.
11. Put stretcher in "down" position, lift stretcher into vehicle and secure stretcher in the vehicle.	Any time that the lifting is done, be sure to bend the knees and lift with the legs rather than the back.
12. Determine if the patient is in a life-threatening condition. If yes, travel to hospital using warning lights and siren, unless otherwise indicated.	Use of the warning lights and siren should be limited to only those situations in which the patient must arrive at the medical facility to receive definitive life-saving care.
13. Continue treatment as necessary.	

TRANSPORTATION

TASK II (CONTINUED)

ELEMENTS	EXPLANATION
14. Monitor vital signs; blood pressure, pulse, respiration. (See Task "Diagnostic and Vital Signs" Module III)	
15. Notify hospital of pending arrival of patient(s), condition of the patient, vital signs, doctor's name, and estimated time of arrival.	
16. Complete all trip sheets or records required by either the hospital or ambulance organization.	
17. Upon arrival at the hospital, transfer all information and the patient to the hospital.	If the hospital personnel request assistance, assist as required.
18. Return ambulance vehicle to original state and return to base.	It is essential that all equipment be clean and/or replaced to its original position so that the next crew will have all the equipment available in a usable form.

LIFTING AND MOVING PATIENTS

LOOP 1

Blanket Drag

ELEMENTS	EXPLANATION
	Assumes that the patient is in imminent danger, and the rescuer suspects spinal cord damage. Further assumes that a blanket is available. (If blanket is not available, go to Element #8.)
	Assumes that the patient is in the supine position on a floor.
1. Lay the blanket lengthwise next to the patient and gather half the blanket next to the patient in pleats, being sure the remaining half of the blanket is spread away from the patient.	
2. Take the patient's arm that is furthest from the blanket and extend it over the patient's head in a straight line.	By placing the arm in this position, it provides support for the head and makes the body easier to roll.
3. Roll the patient away from the blanket onto his/her side.	Every effort should be made to keep the patient's body in a straight line.
4. While supporting the patient, slide the pleated portion of the blanket against the patient's back.	
5. Lower the patient onto his/her back and then repeat Elements 2-3 only in the opposite direction. Spread the blanket evenly under the patient.	
6. Return the patient to the starting position, lower arm, and wrap the patient in the blanket.	
7. Drag the patient by gripping the blanket directly behind the patient's head and neck.	By grabbing the blanket in this location, it will support the head and cervical region as much as possible. If it is necessary to drag the patient down a flight of stairs, grip the

LIFTING AND MOVING PATIENTS

LOOP 1 (CONTINUED)

Blanket Drag

ELEMENTS	EXPLANATION
	patient's shoulders and support the head and neck on the forearms. Drag the patient head-first down the flight of stairs.
8. If no blanket is available, the patient may be dragged by simply gripping his/her clothing and pulling, using technique #7. The rescuer must be careful not to obstruct the patient's airway by pulling on the clothes. (Go to Task Element #14.)	

LIFTING AND MOVING PATIENTS

LOOP 2

Fireman's Carry and Fireman's Drag

ELEMENTS	EXPLANATION
	Assumes that the rescuer is along, and the patient is in imminent danger. This technique has limited use because of the problem incurred if the patient is very large.
1. Determine whether the fireman's drag or carry is to be used. (If the fireman's carry is to be used, go to Element #6.)	In the fireman's carry, it is necessary for the rescuer to be in better physical condition than for the fireman's drag. It is also very difficult to maneuver because of the added weight in the fireman's carry. Assumes that the fireman's drag is to be used.
2. Position the patient on his/her back.	
3. Tie the patient's hands together with a cravat, tie, piece of sheeting, or similar material.	
4. Straddle the patient's body and then pass your head through the patient's arms.	
5. Raising the upper part of the body will lift the patient's upper body off the ground. Crawl on hands and knees, dragging the patient to safety. (Go to Task Element #14.)	
6. Place the patient on his/her back with knees flexed.	
7. Grasp the patient by the wrists.	
8. Placing your feet against his/hers, pull upward and outward.	This should lift the patient off the ground.
9. As the patient raises up, crouch down, ducking under the patient's raised arm.	

LIFTING AND MOVING PATIENTS

LOOP 2 (CONTINUED)

Fireman's Carry and Fireman's Drag

ELEMENTS	EXPLANATION
10. Allow the patient to fall on your shoulders and then return to a standing position. (Go to Task Element #14.)	The procedure described must be done in a continuous motion. If the rescuer should stop at any point, the weight of the patient may overcome the rescuer, making it necessary to start over again.

LIFTING AND MOVING PATIENTS

LOOP 3

Pack-Strap Carry

ELEMENTS	EXPLANATION
	Assumes that there is one rescuer, the patient is in imminent danger, but the patient is in a conscious state.
1. Assist the patient to a standing position.	It is assumed that injuries will not be further aggravated by this maneuver. If injuries would be aggravated, it will be necessary to determine if an alternate method is available.
2. Stand in front of the patient with your back to that patient, then lift the patient's arms over your shoulders and cross them in front.	Be sure that the patient's armpits are directly over the rescuer's shoulders.
3. Lean forward in a hump-back position, holding the patient's wrists with one hand, and carry the patient to safety. (Go to Task Element #14.)	By gripping the patient's wrists and hunching forward, the patient should be supported high on the rescuer's back and should be easily controlled.

LIFTING AND MOVING PATIENTS

LOOP 4

Extremities Carry

ELEMENTS	EXPLANATION
	Assumes that two rescuers are available; the patient does not have any suspected spinal trauma, but is in imminent danger. The technique is usually used when the rescuers and patient must maneuver through narrow areas.
1. Position the patient on his/her back with legs spread and knees flexed.	
2. One rescuer takes a position at the head of the patient, and the other rescuer takes a position at the feet of the patient.	
3. The rescuer at the feet of the patient reaches down, grips the patient's wrists and pulls the patient into a sitting position. The second rescuer can assist the procedure by lifting the patient's shoulders.	
4. As the patient reaches a sitting position, the rescuer at the head of the patient crouches down on one knee, supports the patient with the other knee, and grips the patient around the torso.	
5. The first rescuer then turns away from the patient, reaches down and grips the patient's legs behind the knee.	
6. On command, the two rescuers lift as a unit and carry the patient to safety. (Go to Task Element #14.)	The rescuers should lift with their legs and not their backs.

LIFTING AND MOVING PATIENTS

LOOP 5

Seat Carry

ELEMENTS	EXPLANATION
	Assumes that two rescuers are available and the patient does not have any suspected spinal trauma, but is in imminent danger.
1. With the patient in a supine position, the rescuers assume a position to either side of the patient near the waist.	
2. With the hand nearest the patient's head, each rescuer reaches down, grips the patient's shoulder and raises the patient to a sitting position.	
3. Once the patient is in a sitting position, each rescuer reaches behind the patient and grasps the other's wrist, interlocking the arms.	
4. With the other under, each rescuer slides an arm under the patient's knees and grasps the other's wrist.	
5. The two rescuers then rise on a command and adjust their arms to make a secure seat for the patient.	If the patient is conscious, he/she can place his/her arms around each of the rescuers.
6. Carry the patient to safety.	
(Go to Task Element #14.)	

LIFTING AND MOVING PATIENTS

LOOP 6

Traction Blanket Lift

ELEMENTS	EXPLANATION
	Assumes that the patient has suspected spinal trauma, but a long board is not available. It is further assumed that a minimum of six rescuers are available to assist. If rescuers are not available, bystanders may be used.
	Assume the patient is in the prone position.
1. One rescuer applies traction and takes a position at the head of the patient.	A cervical collar or adequate substitute may be used if available.
2. A second rescuer folds a blanket widthwise into pleats approximately one foot in width.	
3. Position the blanket such that the bottom fold is directly under the patient's shoulders and the top fold is under the knees of the rescuer applying traction.	
4. Two rescuers should then position themselves beside the patient at the shoulders. On command, the two will lift the patient slightly.	The rescuers lifting the shoulders should lift with the rescuer maintaining traction.
5. Another rescuer should then pull the blanket down under the victim.	The blanket cannot be drawn down too far because of the rescuer's knee on the top of the blanket.
6. Once the blanket is completely unfolded, the rescuers on either side of the patient should roll the blanket up to the patient.	
7. Once the edges are rolled, a rescuer is positioned at the shoulders, gripping at the shoulders and lower back, and a rescuer is positioned at the hips, gripping at the hips and knees on each side.	

LIFTING AND MOVING PATIENTS

LOOP 6 (CONTINUED)

Traction Blanket Lift

ELEMENTS	EXPLANATION
8. On command, the four rescuers holding the blanket rock back, lifting the patient from the floor. The rescuer applying traction to the neck should lift at the same time.	For the rescuers to properly lift the patient, they should be positioned on their knees and let their back and thigh muscles generate the lifting power.
9. A sixth rescuer slides a portable stretcher or other rigid device under the patient and, on command, the five rescuers should lower the patient. (Go to Task Element #14.)	

LIFTING AND MOVING PATIENTS

LOOP 7

Straddle-Slide and Log Roll

ELEMENTS	EXPLANATION
	Assumes that the patient has suspected spinal trauma, and a long board is to be used.
	Further assumes that a minimum of five rescuers are available to assist.
	Assumes the patient is in the supine position.
1. Determine the amount of space available to function around the patient. (If space is limited; i.e., narrow hallway, go to Element #9.)	Assumes the four-man log roll is to be used.
2. One rescuer takes a position at the head of the patient and gently applies traction.	A cervical collar or adequate substitute may be used, if available.
3. Once traction has been applied, a second rescuer raises the patient's arm above his/her head on the side toward which the patient is to be rolled.	
4. On the side which the arm is raised, three rescuers position themselves.	
5. The first rescuer grips the patient on the patient's farthest shoulder and arm, the second rescuer on the patient's waist and buttocks, and the third rescuer on the patient's knees and calves.	
6. On command, the four rescuers roll the patient toward them, being sure to keep the patient in a straight line.	It is essential that the rescuer maintaining traction rotates the patient along with the other three rescuers.
7. A fifth rescuer slides the long board next to the patient and places pads where voids will be created when the patient is on the	

LIFTING AND MOVING PATIENTS

LOOP 7 (CONTINUED)

Straddle-Slide and Log Roll

ELEMENTS	EXPLANATION
board: neck, small of the back, under the knees, and ankles.	
8. On command, the rescuers roll the patient onto the long board and secure the patient to the board. (For procedure for securing a patient to the long board, see task, "Spinal Trauma".) (Go to Task Element #14.)	
9. The first rescuer stands at the patient's head, spreads his/her legs, bends at the waist, and applies gentle traction to the patient.	Assumes the straddle-slide method is to be used.
10. A second rescuer straddles the patient facing the first rescuer and places his/her hands under the patient's arm just below the shoulders.	
11. A third rescuer straddles the patient and places his/her hands under the patient's waist.	
12. The fourth rescuer straddles the patient, and takes a position at the head of the patient with the board in position to slide under the patient from the head.	
13. On command, the rescuers lift the patient just enough to slide the board under the patient.	
14. Slide long board under patient.	
15. Slowly lower patient onto board.	
16. The rescuers then pad the voids created and secure the patient to the board. (See task "Spinal Trauma") (Go to Task Element #14)	

LIFTING AND MOVING PATIENTS

LOOP 8

Use of the Chair as a Moving Device

ELEMENTS	EXPLANATION
	Assumes that the patient has no suspected spinal trauma and that two rescuers are available. This technique is usually used in those instances where sharp corners or a flight of stairs must be negotiated.
1. Select a chair to be used, being sure to test the chair for rigidity and sturdiness.	
2. Place the patient on the chair. If the patient is unconscious, secure the patient's hands.	If the patient is in the supine position on the floor, it is possible to put the patient in the chair by sliding the chair underneath the patient from the buttocks up. Once the patient is on the chair, the chair is tilted into the upright position. This technique is not recommended.
3. The first rescuer takes a position behind the chair and tilts the chair back.	
4. The second rescuer takes a position in front of the chair and reaches down and grips the front of the chair.	
5. Move the patient as indicated.	If the rescuers are going down stairs, the rescuer in the front of the chair should face the patient and walk down the stairs backwards. If a third rescuer is available, that rescuer should walk down the steps first, supporting the other rescuer by gripping his/her belt or placing a hand on the rescuer's back. If the patient is being moved along a level surface, the rescuer in front of the chair may wish to face away from the victim when walking.
(Go to Task Element #14.)	

TRANSPORTATION

LOOP 9

Multi-Patient Transport

ELEMENTS	EXPLANATION
	Assumes that there are two or more patients that require emergency medical care and transportation to a medical facility. Assumes there are two or more rescuers at the scene, and all patients have been surveyed for injury. Assumes also that the following items are available. A. writing implement B. trip report sheets, or C. other sheets of paper
1. Confer with all crew members who have surveyed injured patients to determine nature of injuries of all patients.	This is usually not a "formal" meeting but may be through a series of signs or signals, indicating the severity of individual patients.
2. Determine the number of patients in each of the three levels of priority and their probable destination.	Once all patients have been examined and sorted according to the severity of their condition, the rescuer must determine the number of patients in each priority level. This number must be accurate so the rescuer may match patients with available transportation.
3. Determine the type and number of vehicles to transport patients.	The number of vehicles available is important since the rescuer must know how many patients can be transported at any given time. It is also important for the rescuer to be aware of the nature of those vehicles (i.e., are they specialized vehicles such as Mobile Intensive Care Units) so that the individual patient may be matched with the best vehicle for his/her specific needs.
4. Assign patient to vehicles based upon: A. Level of priority in reference to all other patients. B. Specific nature of patient's problem. C. Vehicles available.	This assignment of patients must be clear to all individuals at the scene. To avoid confusion, all involved emergency care personnel must be informed of the assignments made.

TRANSPORTATION

LOOP 9 (CONTINUED)

Multi-Patient Transport

ELEMENTS	EXPLANATION
5. Determine which patients have similar priority problems and will be transported to the same location.	All patients being taken to a specialized facility should be transported in the same vehicle or group of vehicles to avoid confusion and unnecessary delay.
6. While patients are being treated and prepared for transportation (packaged), the rescuer must anticipate which patients will be ready for transportation first. This may require that some less critical patients be transported initially.	If a critical patient has not been properly prepared for transportation and stabilized, less critical patients should be transported. However, it is essential that sufficient vehicles remain behind to transport the critical patients when they are ready.
7. Inform all vehicle crew members and/or drivers of the destination of their patients and if their vehicle should return to the scene once the patient(s) is delivered.	In a situation in which it becomes necessary to triage (i.e., survey all patients and decide how to handle them), the rescuer in charge of the scene should stay at the scene and perform the following activities: A. Work with other rescuer personnel who are providing emergency medical care at the scene to some degree. B. Observe the entire situation and supervise all activities at the scene. C. Remain at the scene until all patients have been transported.
8. Prepare a written statement concerning the patient's condition including: A. patient's name (if known) B. level of consciousness and any changes in the original level C. any vital sign information gathered at the scene D. time of incident E. time of initial contact and survey F. any changes which may have occurred in the patient's condition G. the times of those changes.	This written statement is vital to assure a continuous patient care when the patient(s) is delivered to a medical facility. Without the rescuer or a written record of the patient's condition and treatment rendered, the hospital staff cannot provide the best care possible. This is due to the fact that the hospital staff is operating on partial information, which can only be provided by the rescuer who performed the survey and provided the emergency care or by a written record accompanying the patient.

TRANSPORTATION

LOOP 9 (CONTINUED)

Multi-Patient Transport

ELEMENTS	EXPLANATION
The written record can either be a special form (e.g., a carbon copy of the ambulance "trip sheet") or simply information written on a plain piece of paper.	
9. Attach the patient's record to his/her body in such a manner that it is easily observable.	If there is a predetermined position in which the record is to be placed (e.g., under the patient's pillow), it should be placed in that location. The predetermined position of the form must be common knowledge among all individuals responsible for patient care to avoid any confusion in an urgent situation.
10. Inform the crew members responsible for transportation that there is a written record to be transported with the patient.	If the crew members participated in emergency care at the scene, they will be aware of the fact that a written record will accompany the patient.
11. Determine if all patients have undergone the triage process. (If there are patients remaining, go to Element #3.)	
	Once the triage process is completed, the rescuer usually accompanies the last patient(s) loaded in a vehicle. It is essential that the rescuer in charge of the triage of a large number of patients remains at the scene until all patients are evacuated.
12. Once all patients have been triaged, each patient will be dealt with as a single patient. (Go to Task Element #4.)	

TRANSPORTATION

LOOP 10

CPR in Transport

ELEMENTS	EXPLANATION
	Assumes that the patient is in cardiac arrest and that CPR is in progress.
1. Position stretcher such that the head of the patient is at the foot of the stretcher (or vice versa).	
2. Lower side rail of stretcher on the side which the patient is to be loaded. Remove upper sheet, blanket, and pillow.	
3. Place short board or CPR board on upper part of stretcher.	This is necessary to insure that CPR is being performed on a hard surface.
4. Adjust stretcher to appropriate level.	
5. In five seconds, lift patient on stretcher.	It is not necessary to use any of the specifically identified lifts or moves. The most important thing is to move the patient as quickly as possible. It may be beneficial to use a prescribed lift to avoid any injury to the rescuer.
6. Continue CPR.	
7. Wheel patient to vehicle.	When moving the stretcher, remember the following: A. CPR should not be stopped for more than five seconds. B. Stretcher should be wheeled along ground to insure firm support to do CPR. C. Stretcher should be wheeled slow enough to allow effective compressions. D. Stretcher should be at a height which allows for effective compressions.
8. Put stretcher in "down" position, lift stretcher into vehicle, and secure stretcher in the vehicle.	Any time CPR must be interrupted (i.e., loading patient into vehicle), the CPR should be stopped after two ventilations and should be restarted with two ventilations.

TRANSPORTATION

LOOP 10 (CONTINUED)

CPR in Transport

ELEMENTS	EXPLANATION
9. Warning lights and siren should be used during transport, but the speed should be limited to insure that the CPR is effective. (Go to Task Element #13.)	

TRANSPORTATION

LOOP 11

Use of Orthopaedic Stretcher

ELEMENTS	EXPLANATION
1. Determine if it is necessary to adjust the patient's position before patient may be positioned on the equipment selected by determining if the patient may be secured to the device in his/her current position.	In all cases, it is preferred that the patient be immobilized in the position in which he/she is discovered. In very rare and unusual cases, it may be necessary to modify the patient's position for some purpose other than medical care (i.e., it is impossible to extricate an entrapped patient unless his/her body is in a straight line, and all extremities are parallel to the line of the body). Patient must be in a prone position.
2. Determine what adjustment is necessary by assessing the position of the patient and determining in what way his/her position needs to be modified.	
3. Support patient along the entire length of the spine and legs; slowly adjust the patient's position. If any pain is felt by the patient during the process, return patient to position which is more comfortable and without pain.	This procedure is never recommended, and it should be used only if there is absolutely no other alternative.
4. Unfold orthopaedic-type scoop stretcher and adjust length to fit length of patient by sliding lower end (the end without the Velcro-connected pillow) into the upper end by positioning lock pegs over the length adjustment holes and turning lock pegs to allow them to lock into position.	The stretcher should be adjusted to fit the length of the patient as closely as possible.
5. Remove head support (pillow) by reaching under each side of the stretcher frame and pulling the bottom vinyl flap away from the top piece of the vinyl pillow separating the Velcro stripping.	
6. Grasp head of stretcher with both hands and depress catch device	The button on the catch device should be depressed before any outward pressure

TRANSPORTATION

LOOP 11 (CONTINUED)

Use of Orthopaedic Stretcher

ELEMENTS	EXPLANATION
button with the index finger of the right hand to separate both halves of the stretcher.	is exerted in an attempt to separate the two halves of the stretcher.
7. Repeat Element #3 to separate bottom half of stretcher.	
8. Place one half of the stretcher on one side of the patient and the other half on the opposite side with the space for the pillow at the head of the patient, and the scoop blades pointed toward the patient's spine.	It does not matter if the patient is on the stomach or the back since the scoop stretcher may be used in both cases. However, great care must be exercised in the movement of a patient on the stomach to avoid allowing the patient's arm to extend through the bottom of the scoop stretcher.
9. Place the left half of the stretcher underneath the patient by gently lifting the patient and sliding a section under patient. Be careful not to pinch the patient with scoop.	The patient may be lifted with the least effort by having a co-worker on the opposite side reaching over the patient and grasping the patient and then rocking each to allow insertion of the scoops under the patient.
10. Position right half of stretcher close to patient and connect the two sections at the head of the stretcher by sliding the catch device together.	
11. Slide the catch device at the other end together in the same manner while a co-worker gently lifts patient. Be careful not to pinch patient with the scoop.	Support the body of the patient in such a manner that the scoop blades may move under the patient and provide support along the entire length of the patient's body.
12. Slide pillow under stretcher frame with the Velcro stripping facing upward. Wrap support around frame and fasten Velcro.	Do not rely on Velcro to support head when lifting stretcher. Rescuer at the head of the stretcher should always grip head support and frame simultaneously to insure Velcro will hold.
13. Secure patient with straps across chest, hips, and lower thighs.	Because of the design of the stretcher, it is not necessary to lift the stretcher and run the strap underneath, but rather to run the strap across the patient twice, looping it around the frame.

TRANSPORTATION

LOOP 11 (CONTINUED)

Use of Orthopaedic Stretcher

ELEMENTS	EXPLANATION
14. Prepare multi-level stretcher by removing upper sheet, pillow, and blanket.	
15. Adjust stretcher to lower level.	
16. Gently lift patient and move to multi-level stretcher. (Go to Task Element #7.)	All rules of lifting and moving patient previously mentioned for other types of stretchers also pertain to the orthopaedic stretcher.

TRANSPORTATION

LOOP 12

Use of Long Board

ELEMENTS	EXPLANATION
	Assumes orthopaedic stretcher has been selected for use.
1. Determine if it is necessary to adjust the patient's position before patient may be immobilized with the equipment selected by determining if the patient may be secured to the immobilization device in his or her current position.	In all cases, it is preferred that the patient be immobilized in the position in which he/she is discovered. In rare and unusual cases, it may be necessary to modify the patient's position for some purpose other than medical care (i.e., it is impossible to extricate an entrapped patient unless his or her body is in a straight line, and all extremities are parallel to the line of the body). Patient must be in the prone position.
2. Determine what adjustment is necessary to permit the patient's spine to be adequately immobilized by assessing the position of the patient, and determining in what way his/her position needs to be modified.	
3. Support patient along the entire length of the spine and legs; slowly adjust the patient's position. If any pain is felt by the patient during the process, return patient to a position which is more comfortable and without pain.	This procedure is never recommended, and it should be used only if there is absolutely no other alternative.
4. Support head, neck, and shoulders of the victim by straddling the head of the victim. If short spine board has not already been used, it will support this area.	
5. Lift head and shoulders only slightly. Then slide long board under patient from the head down.	All movements must be slow and deliberate to prevent any unnecessary movement which may further damage the spinal cord. An alternate method may be to place the long board in line with the patient's spine and next to the patient's body. While maintaining spinal traction, support patient along the entire

TRANSPORTATION

LOOP 12 (CONTINUED)

Use of Long Board

ELEMENTS	EXPLANATION
	length of the body and rotate patient away from the surface which is supporting the spine and slide the long board under the patient. Once device is in position, allow patient to return to his/her previous position.
6. Place a rolled towel or similar bulk material under the knees, ankles, neck, and small of the back.	
7. Secure patient with straps around chest, pelvis, and lower thigh.	
8. Prepare multi-level stretcher by removing upper sheet, pillow, and blanket.	
9. Adjust stretcher to lower level.	
10. Gently lift patient and move to multi-level stretcher. (Go to Task Element #7.)	All rules for lifting and moving previously mentioned for other types of stretchers also pertain to the long board.

TRANSPORTATION

LOOP 13

Use of the Chair

ELEMENTS	EXPLANATION
	Assumes that the chair has been chosen to lift and move the patient.
1. Select a chair to be used.	The most important thing is to select a chair which is sturdy. It will be necessary to test the chair by applying pressure against the chair to see if there appears to be any weak spots.
	Assumes the patient is not on the floor. Use of the chair is not recommended if the patient is lying on the floor; however, it can be used in the situation.
2. The chair is placed next to the patient.	
3. One rescuer supports the patient under the arms and the other rescuer supports the patient under the knees	
4. On command, the rescuers lift the patient onto the chair.	If the patient is unconscious, he/she should be secured to the chair with restraining straps.
5. The rescuer behind the chair then tilts it back, and the rescuer in front grabs the front legs of the chair.	
6. The chair is then lifted and carried to the multi-level stretcher.	If the chair is being carried over a flat surface, both rescuers may face the front. When the rescuers are going down the stairs, the rescuer holding the front legs of the chair should turn around, face the other rescuer, and go down the stairs first.
7. Lower side rail of stretcher on the side which the patient is to be loaded. Remove upper sheet and blanket.	
8. Adjust stretcher to proper level.	
9. Lift patient as previously described, under the arms and knees, and position on stretcher. (Go to Task Element #8.)	

MODULE IX

EXTRICATION

EXTRICATION

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the students will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80 percent of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a description of a situation which includes one of the following hazards:

    A. Traffic
    B. Downed wires
    C. Fire or explosive materials
    D. Dangerous materials (i.e., chlorine gas)
    E. Radioactive materials
    F. Unstable vehicle

    and statements describing activities for removing or dealing with the hazard, the student will be able to identify the statement which describes the best procedure for removing the specified hazard.

2. Given a list of statements, the student will be able to identify the statement which best describes the effect of electricity on the body.

3. Given a list of statements, the student will be able to identify the statement which best describes the treatment for a patient who has come in contact with an electrical source.

4. Given a list of statements, the student will be able to select the statement which best defines:

    A. Explosion
    B. Over-pressure
    C. Dynamic pressure

5. Given a list of types of injuries, the student will be able to identify those injuries which are prevalent in explosions.

6. Given a list of the three types of radiation and a description of each in random order, the student will be able to match the type of radiation with the correct description.

7. Given a list of the three types of radiation and a description of the effect each has on the body, the student will be able to match the type of radiation with the effect on the body.

8. Given a list of dosages of radiation for each of the types, the student will be able to recall which are lethal dosages.

9. Given a group of symbols, the student will be able to identify the symbol which indicates radioactive material.

10. Given different types of rope, the student will be able to select the type of rope which would be used when handling downed electrical wires.

11. Given a list of statements, the student will be able to select the statement which best defines:

    A. Access to the patient
    B. Disentanglement of the patient
    C. Removal of the patient

12. Given a list of activities for access to the patient in a random sequence, the student will be able to place in the proper sequence according to their priority of use.

13. Given a list of statements, the student will be able to select the statement which best defines the problems when glass fragments or dust enter an open wound.

14. Given a list of statements, the student will be able to select the statement which best defines:

    A. Safety glass
    B. Tempered glass

15. Given a list of statements which describe the properties of tempered and safety glass when struck with a sharp object, the student will be able to select the statement which best describes the property of each.

16. Given a list of statements, the student will be able to select the statement which best defines the differences between butyl tape-mount and rubber-mount windshields.

17. Given a list of locations on an automobile, the student will be able to select the location where the year of the automobile can be found.

18. Given a list of statements describing the differences in door structure of older and newer cars, the student will be able to select the statement which best describes the difference.

19. Given a list of years, the student will be able to select the year in which the change in door structure occurred.

20. Given a diagram of a typical locking mechanism of an American made automobile, the student will be able to correctly label the plunger which releases the door, and the cable or wire which releases the locking mechanism.

21. Given the diagram of a door, the student will be able to indicate on the diagram where the door panel should be cut to expose the total locking mechanism.

22. Given a list of statements which describe the use of contact paper in gaining access to the patient, the student will be able to select the statement which best defines the purpose.

23. Given a list of statements which describe the activities of two men operating a porta-power, the student will be able to select the statement which best defines the responsibilities of each man.

24. Given a list of activities, the student will be able to select the activity which is most appropriate when the jaws of the porta-power cannot be inserted in the door seam.

25. Given a list of descriptions, the student will be able to select the one which best describes the opening of a door using the porta-power and duckbill jaws.

26. Given a list of descriptions, the student will be able to select the one which best describes the opening of a door using a pry bar.

27. Given a diagram of an automobile, the student will be able to label the A, B, and C posts.

28. Given a diagram of an automobile roof, the student will be able to indicate on the diagram three alternatives in removing or gaining access through the roof.

29. Given a list of pressures (lbs.), the student will indicate the most appropriate operating pressure of an air chisel when cutting through:

    A. Glass
    B. Metal

30. Given a list of descriptions, the student will be able to select the one which best describes gaining access through the roof using an air chisel or a flat-head axe and sledge.

31. Given a list of descriptions, the student will be able to select the one which best describes gaining access through the floor using an air chisel or flat-head axe and sledge.

32. Given a list of descriptions, the student will be able to select the one which best describes gaining access to the patient through the trunk.

33. Given a list of statements describing each of the following, the student will be able to select the best one for disentangling the patient from:

    A. Steering wheel
    B. Steering column
    C. Dashboard
    D. Pedals
    E. Seat
    F. Windshield

34. Given a description of patients within vehicles with various problems, and a list of activities, the student will be able to select the activity which is most appropriate for stabilizing and removing the patient. The patient may have any of the following problems:

    A. Flail chest

B. Fracture of an extremity
C. Spinal trauma
D. Multiple soft tissue injuries
E. Myocardial infarction

EXTRICATION

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given a 50' length of rope with weighted ends, the student will be able to demonstrate the procedure for removing a downed wire from a specific area.

2. Given two 50' lengths of rope, the student will be able to demonstrate the technique for securing an unstable vehicle.

3. Given the equipment listed as the Windshield and Door Access kit, the student will be able to demonstrate with the assistance of a fellow student the technique for gaining access through the:

   A. Front or rear window
   B. Side window
   C. Door

4. Given an axe, sledge hammer, air chisel, and porta-power and attachments, the student will be able to demonstrate with the assistance of a fellow student the technique for gaining access through the roof, floor, or trunk.

5. Given a 50' rope, come-along, chains, bolt cutters, pliers, porta-power and attachments, towels, and a fellow student to assist, the student will be able to demonstrate the procedure for disentangling the patient from the:

   A. Steering wheel
   B. Steering column
   C. Dashboard
   D. Pedals
   E. Seat
   F. Windshield

6. Given a short board, long board, orthopaedic stretcher, and/or portable stretcher, jump kit, and three students to assist, the student will be able to demonstrate the procedure for the removal of a patient from an automobile. The patient will be a fellow student and will have at least one of the following problems:

   A. Flail chest
   B. Fracture of the extremity
   C. Spinal trauma
   D. Multiple soft tissue injuries
   E. Myocardial infarction

EXTRICATION

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will:

1. Distribute the student activity sheet and handouts during the class period prior to beginning this module. Assignments are:

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 425-435, 77-107.

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 23-37, 191-197.

2. This module is planned for 9 hours. The lecture will involve the use of slides and filmstrips. The content of the lecture is specified in the Module Outline. This module is best presented partly in classroom and in part, where access of one or more automobiles are available.

   A. Slides are from the EMERGENCY CARE SERIES, Robert J. Brady Company. Unit 10. Slides: 8 to 54.

   B. Slides: AUTO EXTRICATION, by Los Angeles City Fire Department, distributed by Film Communications

      (1) Size Up; Access Problems, Mercy Kit, Unit 1
      (2) Specialized Tools, Part 1, Unit 2
      (3) Specialized Tools, Part 2, Unit 2
      (4) Moving Patient with Cervical Spine Injury, Unit 4

   C. References:

      (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons,) (1977). 2nd Edition. Pages: 377-395.
      (2) Advanced First Aid and Emergency Care, by the American National Red Cross, (1973). Pages: 285-301.
      (3) Automobile Accident Occupant Injuries, by J.K. Sims, M.D., Roy J. Ebisu, Randolph K. M. Wong, Livingston M. F. Wong, M.D. (Reprints: J.K. Sims, M.D., Emergency Medical Services Program, Hawaii, 1301 Punchbowl Street, Honolulu, Hawaii. 96813.)
      (4) Vehicle Rescue, by Harvey Grant, Robert J. Brady Company, (1975). Pages: 206-248, 301-326.
      (5) Extrication Is But 1 of 10 Phases of Vehicle Rescue System, by Harvey Grant, Senior Instructor Delaware State Fire School.

   D. Alternative Learning Resources:

      (1) Filmstrip: Emergency Medical Care Series, by Trainex. Program No. 396. Extrication of the Injured.
      (2) Filmstrip: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc. Unit 13. Immobilizing and Packaging for Extrication.

3. Prepare notes and conduct the demonstration sessions. The demonstrations consist of:

   A. Procedure for removing downed electrical wires using a 50' section of rope with weighted ends or a clamp stick.
   B. Procedure for stabilizing a vehicle using cribbing, spare tire, jack, or ropes.
   C. Procedure for gaining access through the front or rear window using hand tools without breaking glass.
   D. Procedure for gaining access through the side or vent window by prying back or shattering glass.
   E. Procedure for gaining access through the door by springing the lock mechanism.
   F. Procedure for gaining access through the door by prying the door using a pry bar and/or ten-ton porta-power
   G. Procedure for gaining access through the roof or body using an axe and sledge, or an air chisel.
   H. Procedure for gaining access through the trunk.
   I. Procedure for disentangling the patient from:
      (1) steering wheel using both cutters
      (2) steering column using a come-along or porta-power
      (3) dashboard using a porta-power
      (4) pedals using a rope
      (5) seat using a porta-power or come-along
      (6) the windshield
   J. Procedure for removal of patient from a vehicle using a short board, long board, and/or orthopaedic stretcher.

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

5. After and/or during the practice session, the instructor will evaluate the student's ability to perform each of the skills. The student's skills can be evaluated collectively. In addition, each student will be required to take a written examination. After completing the evaluations, the instructor will advise the student on his/her progress and suggest Alternative Learning Resources, if appropriate.

EXTRICATION

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

- Chalk and Chalkboard
- Overhead Projector
- Screen
- Filmstrip/cassette machine

Medical

Hand Tools

- Aircraft snips (tin snips) - use for cutting seat belts and car tops
- Cold chisel kit - removal of screws (optional)
- Punch set - removal of bolts (optional)
- Hammer
    1. claw
    2. sledge - 8 lbs.
    3. rubber
- Pliers
    1. vice-grip
    2. needle nose
- Saws
    1. hack-saw
    2. wire-saw (optional)
- Wrenches (optional)
    1. adjustable
    2. open end
    3. pipe wrench
- Flat-head axe
- Bolt cutter
- Pry/wrenching bar
- Ten ton porta-power
- Screw drivers - various sizes
    1. philips head
    2. straight
- Two 50' sections 1/2" manilla rope
- 50' section 1/2" rope with weighted end
- Clamp stick, gloves, and rubber mat (optional)
- 30' section electrical line
- 1-1/2 ton come-along and chains

Windshield and Door Access Kit

- Two baling hooks - to remove trim (optional)
- Two linoleum knives - remove rubber mounting
- Swiv-L-cut - remove butyl tape
- Claw hammer

EXTRICATION

Windshield and Door Access Kit (Continued)

40 oz. short handle sledge
Schild tool
Center punch
Clear contact paper

Other

One vehicle for every 8 to 10 students
Short spine boards
Long spine board
Stretcher (multi-level)
Orthopaedic stretcher
Jump kit with equipment

HANDOUTS

Task Sheets
Skill Development Checklist
Skill and Knowledge Objectives
Skill Evaluation Sheets
Written Examination

AUDIOVISUALS

Slides: Emergency Medical Care Series, by Robert J. Brady Company. Unit 10.

Auto Extrication, by Los Angeles City Fire Department, Units 1, 2, and 4.

EXTRICATION

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 425-435, 77-107.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 23-37, 191-197.

3. Student Skill Development Checklist for Extrication. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

4. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

5. Alternative Learning Resources

   A. Filmstrips: Emergency Medical Care Series, by Trainex. Program 396

   B. Filmstrips: Basic Skills for the EMT, by Emergency Training, Inc.

6. Student Skill Development Checklist will begin on next page.

EXTRICATION

7. Before leaving this module the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTOR'S INITIAL
Performance Skills:			
A. Over/Under weighted ropes			
B. Removal window:			
1. Front			
2. Rear			
3. Side			
4. Vents			
C. Removal doors:			
1. Open			
2. Locked			
D. Access:			
1. Roof			
2. Floor			
3. Trunk			
E. Disentanglement:			
1. Steering wheel			
2. Steering column			
3. Pedal			
4. Dashboard			
5. Seat			
6. Windshield			
F. Removal victim from auto			
G. Rope stabilization of auto			

EXTRICATION

LECTURE TOPICS	REFERENCES
I. Hazards	Task I
A. Types of Hazards to be Considered	Element 3
1. Traffic	
2. Non-traffic	
a. downed electrical wires	
b. fire to explosive materials	
c. dangerous materials (e.g., chlorine gas)	
d. radioactive materials	
e. vehicle unstable	
f. other (i.e., debris)	
B. Dealing with Specific Hazards	
1. Traffic	
a. notify police	
b. create 50' zone of safety	Element 4
(1) stop traffic	
(2) detour traffic	
c. position flares to warn motorists (see Note 1)	Element 5
d. use bystanders, if necessary, to control traffic flow	
2. Non-traffic	
a. downed wires	LOOP 1
(1) effect of electricity on body	
(2) procedure	
(a) call power company	
(b) establish danger zone	
(c) evaluate total area	
(d) reassure victims	
(e) remove wires	
i. clamp stick	
ii. weighted rope	

EXTRICATION

LECTURE TOPICS	REFERENCES
DEMONSTRATION #1	
PRACTICAL EXERCISE #1	
(f) treatment of patient contacting electrical source	
b. fire or explosive materials	LOOP 2
(1) definition - explosion	
(a) over-pressure	
(b) dynamic pressure	
(2) types of injuries prevalent	
(3) procedure	
(a) call for assistance from local fire department	
(b) and special rescue team	
(c) establish danger zone	
(d) prohibit activity and use of metal objects	
(e) evacuate victims, if necessary and possible	
(f) protect bystanders	
c. dangerous materials	LOOP 3
(1) call for assistance	
(2) evacuate victims, if possible	
(3) protect bystanders - establish danger zone	
d. radio-active materials	LOOP 4
(1) types of radiation	
(a) alpha	
(b) beta	
(c) gamma	
(2) effects of radiation	

EXTRICATION

LECTURE TOPICS	REFERENCES
(3) types of accidents	
(a) industrial	
(b) transportation	
(4) rescue procedures	
(a) call for assistance	
(b) approach upwind	
(c) evacuate victim, if possible	
(d) remove clothing	
(5) treatment of exposed victim	
e. vehicle is unstable	LOOP 5
(1) reassure victims	
(2) stabilize	
(a) ropes	
(b) cribbing	
(c) jack; spare tire	
DEMONSTRATION #2	
f. other hazards	LOOP 6
(1) call for appropriate assistance	
(2) evacuate victim, if possible and necessary	
(3) protect bystanders - determine danger zone	
II. Access and Entry to the Patient	ACCESS & ENTRY TO THE PATIENT TASK II
A. Define Access - getting to the patient to initiate emergency treatment	
B. Areas of entry	
1. Windows	
2. Doors	
3. Body - roof, floor, trunk	

EXTRICATION

LECTURE TOPICS	REFERENCES
C. Procedure	
1. Check for easy access	Element 1
a. open door	
b. broken window or vent	
2. Window access	Elements 3-5
a. define	
(1) tempered glass	
(2) safety glass	
b. problems of glass in wounds	
c. windshield (front and back) - procedure for removal	
(1) rubber mount	
(2) butyl tape	
d. side windows	LOOP 7
(1) pry back	
(2) shatter glass	
e. vent removal	
DEMONSTRATION #3	
PRACTICAL EXERCISE #2	
3. Door removal	LOOP 8
a. removal of lock	
b. pry back	
DEMONSTRATION #4	
PRACTICAL EXERCISE #3	
4. Body	LOOP 9
a. removal of roof top	
b. removal of floor	
c. entrance through trunk	

EXTRICATION

LECTURE TOPICS	REFERENCES
DEMONSTRATION #5	
PRACTICAL EXERCISE #4	
III. Disentanglement	DISENTANGLEMENT TASK III
A. Purpose - remove vehicle from patient	
B. Specific problems	
1. Steering wheel	Element 3-5
2. Steering column	Element 6-8
3. Dashboard	LOOP 10
4. Pedals	LOOP 11
5. Seat	LOOP 12
6. Windshield	LOOP 13
7. Structural steel of body	LOOP 14
8. Other (older vehicles; trees, fences, etc.)	LOOP 14
DEMONSTRATION #6	
PRACTICAL EXERCISE #5	
V. Removal	
A. Purpose - remove patient from vehicle	
B. Importance of immobilizing injuries before movement	
C. Review use of:	
1. Short spine board	
2. Long spine board	
3. Scoop stretcher	
4. Portable stretcher	

LECTURE TOPICS	REFERENCES
DEMONSTRATION #7	
PRACTICAL EXERCISE #6	

EXTRICATION

DEMONSTRATION #1: REMOVING DOWNED ELECTRICAL WIRES

Using a rope or electrical wire draped over a vehicle, demonstrate the following:

1. Removal of wire using rope with weighted ends. Include:

    A. Type of rope to be used
    B. Approaching the downed electrical wire
    C. Throwing the rope
    D. Retrieval of the weighted ends (pike pole - optional)
    E. Control of the electrical wire after it is removed from the vehicle

2. Removal of wire using a clamp stick, rubber gloves, and mat. (Optional) Include:

    A. Inspection of gloves
    B. Operation of clamp stick
    C. Gripping the hot wire
    D. Control of the electrical wire after it is removed from the vehicle

DEMONSTRATION #2: VEHICLE STABILIZATION

Using a vehicle, demonstrate the following stabilization technique:

1. Stabilization of a vehicle using ropes. Include:

    A. Tying a bowline knot
    B. Tying an adjustable "circus tent" (slip) knot
    C. Securing rope to frame member of vehicle
    D. Using two ropes to secure vehicle

2. Stabilization of a vehicle using an auto jack. Include:

    A. Necessity of foundation
    B. Positioning of jack on frame member
    C. Notching metal with an axe to form secure lip for jack

3. Stabilization of a vehicle using cribbing. Include:

    A. Necessity of foundation
    B. Structure of cribbing (12" square)
    C. Positioning of cribbing on the vehicle (i.e., do not build a crib under a tire)

DEMONSTRATION #3: ACCESS THROUGH THE WINDOWS

Using a wrecked vehicle, the hand tools listed in the Windshield and Door Access kit, and a student assistant, demonstrate the following:

1. Gaining access through the front or rear window without shattering the glass. Include:

DEMONSTRATION #3: (CONTINUED)

- A. The difference between safety and tempered glass
- B. The difference between rubber-mount and butyl tape mount windshields
- C. Removal of chrome trim and rubber gasket or butyl tape seal
- D. Prying glass away from vehicle

2. Gaining access through the side or vent window by

- A. Shattering glass. Include:
  - (1) problems with glass dust in open wounds
  - (2) application of contact paper
  - (3) shattering glass with center punch (or alternate device)
  - (4) peeling glass away and rolling down window
- B. Prying glass. Include:
  - (1) times when appropriate (i.e., door undamaged, but locked)
  - (2) prying back glass and releasing lock button with a screwdriver

DEMONSTRATION #4: ACCESS THROUGH THE DOOR

Using a wrecked vehicle, the hand tools listed in the Windshield and Door Access Kit, pry bar, porta-power, and a student assistant, demonstrate the following:

1. Gaining access by removing outer door panel and springing lock. Include:

- A. Use of schild tool and sledge
- B. Removal of metal panel to expose locking mechanism
- C. Structure of door mechanism - including push plate and locking mechanism

2. Gaining access by prying door open using pry bar or porta-power. Include:

- A. Determining year of vehicle using taillight code number
- B. Use of duck-bill jaws
- C. Operation of porta-power by two rescuers
- D. Procedure for prying door open

DEMONSTRATION #5: ACCESS THROUGH THE FLOOR, ROOF, OR TRUNK

Using a wrecked vehicle, axe and sledge, air chisel, hand tools, and a student assistant, demonstrate the following:

1. Gaining access through the roof. Include:

- A. Selection of entry site with respect to patient location
- B. Time constraints involved in procedure
- C. Use of the air chisel including
  - (1) types of bits
  - (2) operating pressures
- D. Use of sledge and axe

DEMONSTRATION #5: (CONTINUED)

   E. Removal of ceiling cloth and padding of rough edges

2. Gaining access through the floor. Include:
   - A. Selection of entry site with respect to patient location
   - B. Time constraints involved in procedure
   - C. Use of the air chisel including
     - (1) types of bits
     - (2) operating pressures
   - D. Removal of floor covering and the padding of rough edges

3. Gaining access through the trunk. Include:
   - A. Opening of trunk lid
   - B. Dangers of opening trunk lid with possible interior fire
   - C. Removal of back seat

DEMONSTRATION #6: DISENTANGLEMENT OF THE PATIENT

Using a wrecked vehicle, 50' rope, one-ton come-along, ten-ton porta-power, bolt cutters, vise-grip pliers, chains, and a student assistant, demonstrate the following:

1. Disentanglement from the steering wheel. Include:
   - A. Selection of points where steering wheel should be cut
   - B. Removal of plastic coating using vise-grip pliers
   - C. Removal of windshield (review)
   - D. Use of bolt cutters

2. Disentanglement from the steering column. Include:
   - A. Removal of the windshield (Review)
   - B. Securing chain to steering column
   - C. Securing chain to automobile frame
   - D. Operation of come-along

3. Disentanglement from the dashboard. Include:
   - A. Use of porta-power and extension attachments
   - B. Proper operation of porta-power by two rescuers

4. Disentanglement from the pedals. Include:
   - A. Determination of the direction of pedal displacement (left, right, straight up)
   - B. Securing rope to the pedal (bowline knot)
   - C. Securing rope to a door frame or exterior handle and pulling on door (added leverage)

DEMONSTRATION #6: (CONTINUED)

5. Disentanglement from the seat. Include:

    A. Relation between seat and running tracks
    B. Use of duck-bill jaws and porta-power to pry seat
    C. Use of come-along

6. Disentanglement from windshield. Include:

    A. Probable soft tissue and spinal injuries which may be encountered
    B. Procedure for stabilizing head and neck
    C. Removal of glass to expand hole

DEMONSTRATION #7: REMOVAL OF A PATIENT FROM A VEHICLE

Using a short board, long board, orthopaedic stretcher, and three students, demonstrate:

1. Removal of a patient from a vehicle. Include:

    A. Importance of immobilizing injuries before movement
    B. Procedure for removing patient with spinal trauma
    C. Operation of orthopaedic stretcher (review)
    D. Immobilization using short and long boards (review)

EXTRICATION

PRACTICE SESSIONS

PRACTICAL EXERCISE #1

During the other practical exercises, the student should be given the opportunity to practice throwing the weighted rope. For practice session, the student may practice throwing over and under, a rope strung about four feet above the ground between two poles or trees.

PRACTICAL EXERCISES #2-5

The students should break into groups equally divided among the number of vehicles which are available for the session. The instructor will demonstrate a specific technique as outlined and then the students will be given an opportunity to practice on their specific vehicle. If equipment is limited, it may be advantageous for the instructor to demonstrate all the various techniques outlined and then let the students practice each skill as the equipment becomes available. This will be left to the discretion of the instructor.

Practical Exercise	
2	Removal of front and rear windows, side windows, and vents.
3	Removal of doors and/or opening locked doors.
4	Access through the roof, floor, and trunk.
5	Disentanglement of the patient by displacing steering wheel, steering column, pedals, dashboard, and seat.

PRACTICAL EXERCISE #6

The students should divide into groups of five. Each group should select a victim, give that victim a simulated injury, and place that victim in an automobile (that auto need not be one that has been used for the other exercises). The students should then remove that victim from the vehicle. Each student should be given the opportunity to be a victim. It will be to the students' advantage to have more than one victim in the auto at the same time to simulate a multi-patient situation.

EXTRICATION

Student's Name________________________

	Pass	Fail
Weighted Rope	_____	_____
Clamp Stick (Optional)	_____	_____

SKILL EVALUATION #1: REMOVAL OF DOWNED ELECTRICAL WIRES

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

Weighted Rope

The student will demonstrate, using a weighted rope, the following procedure to the satisfaction of the instructor. (Note: The instructor should simulate a downed wire in some manner using either an electrical wire or second rope.)

_____A. Reassure victim that everything is being done. (The student should tell this to the instructor.)

_____B. Approach downed wire slowly and carefully to approximately twenty feet of the wire. (The instructor should ask the student what is felt if he/she approaches too closely, and if it is felt, what should be done.)

_____C. Secure one end of the rope by standing on it, loosely coil the other end, and throw the coiled end under the downed wire.

_____D. Throw the second end over the downed wire. (The instructor should ask the student what is done if both ends go over (under) the wire.)

_____E. Walk around the wire, take hold of rope ends (pike pole - optional), and drag wire away from area.

_____F. Weight wire end down with ladder (or similar material) and mark area as a danger area.

Clamp Stick (Optional)

The student will demonstrate using a clamp stick, rubber gloves, and rubber mat the following procedure:

_____A. Reassure victim that everything is being done. (The student should tell this to the instructor.)

_____B. Check gloves for possible leaks by twisting shut and squeezing.

_____C. Standing on rubber mat, grip wire with clamp stick about 18" from the end of the wire and secure it.

EXTRICATION

SKILL EVALUATION #1: REMOVAL OF DOWNED ELECTRICAL WIRES

Clamp Stick (Optional) (Continued)

_____D. Move slowly from area, dragging wire away.

_____E. Weight wire end down with ladder (or similar material) and mark area as a danger area.

EXTRICATION

Student's Name______________________________

Pass______________________Fail______________

SKILL EVALUATION #2: STABILIZATION OF A VEHICLE USING ROPES

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate using two lengths of rope, the following procedure to the satisfaction of the instructor:

_____A. Secure one end of the first rope to a frame member of the vehicle using a bowline knot.

_____B. Secure the other end of the first rope to a stable object (large tree, truck), using a "circus tent" (slip) knot to allow for adjusting tension.

_____C. Secure a second rope in the same manner at a minimum angle of 15 degrees to the first.

_____D. Tighten each rope until taut.

EXTRICATION

Student's Name____________________________

	Pass	Fail
Front or Rear Window	__________	__________
Side Window	__________	__________

SKILL EVALUATION #3: REMOVAL OF WINDOWS

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

Front of Rear Window

The student will demonstrate with the assistance of a fellow student, the following procedure for removing the front or rear window. The student will have the equipment listed in the Windshield and Door Access Kit. A junked car should be used for the demonstration.

_____A. Remove chrome trim around window using pliers and screwdriver.

_____B. Remove rubber mounting from around the window with linoleum knife. (If a butyl tape mount window, break butyl tape seal using Swiv-L-Cut or linoleum knife.)

_____C. With a screwdriver, pry up top of window and along the sides, and remove glass.

Side Window

The student will demonstrate with the assistance of a fellow student, the following procedure for removing the side window. The student will have the equipment listed in the Windshield and Door Access Kit. The demonstration should involve the use of a junked car.

_____A. Select a window which is furthest from the patient, but will still allow access to the patient. (The instructor should inform the student of the location of the patient.)

_____B. If possible, cover patient with blanket to protect from spraying glass.

_____C. Cover the selected window with contact paper, being sure to press the paper firmly against the entire window.

_____D. Once covered, strike the window in one corner with a sharp object. Only enough force should be used to shatter the window.

_____E. Carefully peel the paper back, bringing the glass with it.

_____F. Reach inside and roll the window frame down to remove any glass fragments from the opening.

EXTRICATION

Student's Name______________________________

	Pass	Fail
Lock Removal	______________	______________
Porta-Power (Prying Door)	______________	______________

SKILL EVALUATION #4: GAINING ACCESS THROUGH A DOOR

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

Lock Removal

The student will demonstrate with the assistance of a fellow student, the following procedure for gaining access through a door. The student will have the equipment listed in the Windshield and Door Access Kit.

_____A. Select the door to be opened. (The instructor should ask the student what requirements must be met for this access approach to be used; i.e., door is not damaged, but only locked.)

_____B. With the Schild tool and sledge, cut around door handle and keyhole on three sides.

_____C. Fold metal sheeting back to expose locking and opening mechanism.

_____D. Locate mechanism which will unlock the opening mechanism. (The student should point this out to the instructor.)

_____E. Locate mechanism for opening the door and open the door. (The student should point this out to the instructor.)

Forceful Entry

The student will demonstrate with the assistance of a fellow student, the following procedure for gaining access through a door. The student will have a pry bar and ten-ton porta-power with duck-bill jaws.

_____A. Determine the year the car was manufactured. (The student should examine the taillight for the digits of the year, and report the year to the instructor. The student should also explain why the year is important.)

_____B. Place the jaws of the porta-power in the seam of the door near the locking mechanism. (In cars older than 1967, a pry bar may be used, but for evaluation the porta-power should be used no matter what the age of the car.)

EXTRICATION

SKILL EVALUATION #4: GAINING ACCESS THROUGH A DOOR

Forceful Entry (Continued)

_____C. Have the assistant pump up the porta-power. (The instructor should be sure that the assistant is only functioning on the command of the individual positioning the jaws.)

_____D. Release the tension and reinsert the jaws. Then re-expand the jaws.

_____E. Repeat the procedure until the door is opened and has released from the safety pin.

EXTRICATION

Student's Name________________________

	Pass	Fail
Roof or Floor	________	________
Trunk	________	________

SKILL EVALUATION #5: GAINING ACCESS THROUGH THE BODY OF THE VEHICLE

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

Access through Roof or Floor

The student will demonstrate with the assistance of a fellow student, the following procedure to the satisfaction of the instructor. The student will have a flat-head axe, sledge, and air chisel available for his/her use.

_____A. Select entry site being sure to locate position of patient. (The instructor should inform the student as to the location of the patient.)

_____B. Cut along three edges of the roof or floor using the sledge and axe, and the air chisel. (The instructor should have the student demonstrate the use of each of the tools.)

_____C. Fold section back and remove interior covering, being sure to pad edges just cut.

Access through Trunk

The student will demonstrate with the assistance of a fellow student, the following procedure to the satisfaction of the instructor. The student will have the porta-power, cold chisel, and hammer available for his/her use.

_____A. Locate position of patient.

_____B. Pry trunk lid open using the porta-power.

_____C. Crawl into trunk, and with the cold chisel and hammer, remove the screws across the top of the seat.

_____D. Push seat forward and enter vehicle.

EXTRICATION

Student's Name ______________________________

	Pass	Fail
Steering wheel		
Steering column		
Dashboard		
Pedals		
Seat		
Windshield		

SKILL EVALUATION #6: DISENTANGLEMENT OF THE PATIENT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

Steering Wheel All Cars

The student will demonstrate on a junked car with a student acting as an injured driver, the following procedure to the satisfaction of the instructor. The student will have a pair of pliers and bolt cutters available for use.

_____A. Determine which section of the steering wheel is to be removed and inform patient of activities. Mentally locate the two points to be severed.

_____B. With the pliers, twist off the plastic covering of the steering wheel. (The instructor should ask the purpose of this procedure.)

_____C. Then with the bolt cutters, sever the metal ring of the steering column.

Steering Column

The student will demonstrate the following to the satisfaction of the instructor. It is assumed that the student has a come-along, chains, and the windshield has already been removed.

_____A. Attach a chain to the steering column in a figure eight around the steering wheel.

_____B. Attach a second chain to a frame member at the front of the vehicle.

_____C. Position the come-along in the middle and attach the chains.

_____D. Crank the come-along until steering is repositioned.

EXTRICATION

SKILL EVALUATION #6: DISENTANGLEMENT OF THE PATIENT (Continued)

Dashboard

The student will demonstrate the following to the satisfaction of the instructor. It is assumed that the student has a porta-power with the various attachments.

_____A. Determine segment which is inhibiting patient.

_____B. Using porta-power and adapters, position porta-power such that it will apply force in desired area. (The instructor should check to insure the porta-power is on a sturdy foundation, i.e., frame member.)

_____C. Activate porta-power and push dashboard away.

Pedals

The student will demonstrate the following to the satisfaction of the instructor. The student will use a 50' section of rope.

_____A. Determine which pedal should be displaced and the direction to which it should be displaced. (The instructor will select the pedal and stipulate the direction of displacement.)

_____B. Secure rope to pedal using bowline knot.

_____C. Secure other end of rope to an outside door handle or door frame member.

_____D. Swing door open and the pedal should be displaced. (The instructor should check to see if the pedal is displaced in the direction requested, i.e., left, right, or straight up.)

Seat

The student will demonstrate the following to the satisfaction of the instructor. The student will use a porta-power with duck-bill jaws.

_____A. Determine which side of the seat should be displaced first. (The instructor will select the side to be displaced.)

_____B. Position the duck-bill jaws underneath the tracks of the seat on the selected side.

_____C. Activate jaws and pry seat up. (If necessary, release, reposition jaws, and repeat until seat is released.)

EXTRICATION

SKILL EVALUATION #6: DISENTANGLEMENT OF THE PATIENT (Continued)

Windshield

The student will demonstrate the following to the satisfaction of the instructor with the aid of an assistant. The instructor will have a patient with his/her head through a piece of cardboard simulating a windshield.

_____A. Determine the extent of soft tissue injury. (The instructor should ask what types of soft tissue injuries are usually present in this situation.)

_____B. Have the assistant apply traction and dress soft tissue injuries.

_____C. Place a towel along the lower edge of the simulated glass to prevent further damage to the anterior neck region.

_____D. Cover victim's head with a second towel to prevent glass from falling on him/her.

_____E. Break glass away from victim's head until there is adequate room to remove the head from the windshield. (Student can only simulate this step.)

_____F. Apply cervical collar.

_____G. Remove the head from the windshield.

EXTRICATION

Student's Name ______________________________

Pass ____________________ Fail ______________

SKILL EVALUATION #7: REMOVAL OF A PATIENT FROM A VEHICLE

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on a fellow victim with simulated injuries in a vehicle, with the assistance of two other students, the following procedure to the satisfaction of the instructor.

_____A. Do primary survey.

_____B. Do secondary survey and evaluate extent of injuries. (The student should inform the instructor as to the nature of the problem of the patient.)

_____C. Treat the patient as necessary, such as:

  _____Maintain airway

  _____Maintain respiration

  _____Maintain circulation

  _____Hemorrhage control

  _____Immobilize all fractures

  _____Stabilize patient

_____D. Position patient for removal.

_____E. Using preferred lifting and/or moving device, remove patient from vehicle. (The student should explain to the instructor why the piece of equipment selected is the most appropriate.)

EXTRICATION

TASK I

HAZARDS

ELEMENTS	EXPLANATION
	Assumes that the ambulance and crew have arrived at the scene and have been alerted to some type of hazard which must be dealt with before the victim can be treated. It is further assumed that the rescuer is able to request assistance from any community resources such as police, fire, and civil defense.
1. Assess the scene to determine the extent and nature of any existing hazard.	
2. Reassure patients concerning their situation and control the activity of bystanders so as not to endanger the victim or themselves.	
3. Determine hazard to be dealt with. If more than one hazard exists, select the hazard which is most dangerous to the patient's and/or rescuer's life. (If the hazard is downed wires, go to LOOP 1.) (If the hazard is fire, go to LOOP 2.) (If the hazard is dangerous materials, go to LOOP 3.) (If the hazard is radioactive materials, go to LOOP 4.) (If the hazard is an unstable vehicle, go to LOOP 5.) (If the hazard is anything else, go to LOOP 6.)	
	Assumes that the hazard which must be controlled is a traffic hazard.
4. Create a 50' radius safety zone around the area by either stopping, limiting, or detouring the flow of traffic.	It may be necessary to do any of the identified activities to create this safety zone for the rescuers to work. The zone may be created by using barricades, parking the ambulance to limit traffic flow, or having bystanders

EXTRICATION

TASK I (CONTINUED)

HAZARDS

ELEMENTS	EXPLANATION
	with flares and flags to control the flow of traffic. If police are available, it is their responsibility to control traffic; and the rescuer should request that the previously-mentioned activities be done by the police.
5. Warn oncoming motorists of the accident by placing flares along the roadway.	Flares should be positioned to warn oncoming motorists by following the guidelines enumerated in Note 1. As traffic backs up, it will be necessary to move the flares further back on the roadway.
6. Determine if all hazards have been controlled. (If there are still hazards present which inhibit the activity of the rescuer, go to Task Element #3.) (If there is more than one patient, go to Task "Multi-Patient Triage" Module XII.) (If the patient is not accessible, go to Task "Access" Task II.) (Go to Task "Primary Survey and Management of a Single Patient" Module II.)	

EXTRICATION

TASK II

ACCESS AND ENTRY TO THE PATIENT

ELEMENTS	EXPLANATION
	Assumes that all hazards have been removed or controlled to the extent that the rescuer is able to begin rescue procedures.
	It is further assumed that the victim is inaccessible within an automobile.
	Note: All rescue work should be done with safety equipment: gloves, goggles, and hard hat.
1. Determine if there is an easy way of gaining access by walking around the vehicle and making an examination for unlocked doors, broken windows, or damaged vents. (If the vehicle is accessible without further effort, go to Task Element #6.)	It is important that the easiest method be tried first. Before efforts are made to remove the windshield, the rescuer should be sure there is not an easier method to enter the vehicle. It has often happened where one rescuer begins removing a window as the second rescuer walks around to the other side of the car and opens the door.
2. Determine the best route for entry to the victim based upon the damage and position of the automobile. (If access is to be through the side window, then go to LOOP 7.) (If access is to be through the door, then go to LOOP 8.) (If access is to be through the body, go to LOOP 9.)	A judgment must be made as to whether to enter through the window, door, or body of the vehicle. The order of priority stated: window, door, and then body.
	Assumes that the access is to be through the front or back window. Further assumes that the following equipment is available: Screwdriver Pliers Linoleum knife and/or Swiv-L-Cut
3. Remove chrome trim from around the window by prying up the edge with the screwdriver and pealing it away using the pliers.	The chrome stripping is usually held in place by a set of metal clips, and it is very easy to release the stripping.
4. Remove rubber mounting by cutting it away with the linoleum knife. Cut the mounting away by sliding	In the newer automobiles, the windshields, both front and rear, are mounted into the

EXTRICATION

TASK II (CONTINUED)

ACCESS AND ENTRY TO THE PATIENT

ELEMENTS	EXPLANATION
the knife around the edge adjacent to the glass.	car and secured with butyl tape rather than a rubber mounting gasket. To release the seal of the butyl tape, it is necessary to reach under the glass and run the linoleum knife on the interior of the glass. If a Swiv-L-Cut is available, it should be used to release the seal on the butyl tape.
5. Once the rubber mounting is removed or the tape seal released, using the screwdriver, gently pry the top of the glass away. Then work your hand in behind the glass sheet and work it free from the frame. Gently lay the glass on the body of the car.	Once the seal is broken and the rubber mounting removed, it is possible to manuever the glass and just lift it out from its mounting. If the glass is tempered, care should be taken not to tap the glass on the edge with any metal because of the inherent weakness of tempered glass when struck on the edge. An alternate method for removing the front windshield would be to cut the window with an axe or an air chisel. The major drawback of this technique is the glass particles which are created. If at any time glass must be cut or shattered, the victim should be protected if at all possible. If an opening is available, a blanket or cover should be inserted through the opening and thrown over the victim for protection. If the back windshield is to be removed by an alternate method, the procedure outlined in LOOP 1 should be followed.
6. Enter the vehicle with jump kit. (If there is more than one patient, go to Task "Multi-Patient Triage" Module XII) (Go to Task "Primary Survey and Management of a Single Patient" Module II)	Once the window has been removed, it may be easier to approach the victim by having the rescuer lie face down on a long board and slide into the patients on the board.

EXTRICATION

TASK III

DISENTANGLEMENT

ELEMENTS	EXPLANATION
	Assumes that the victim is trapped within a vehicle, but the rescuer is able to render emergency care. It is further assumed that the victim is inhibited in movement due to some part of the vehicle. It is also assumed that the following equipment is available: 50' Rope 3/4-Ton Come-Along 10-Ton Porta-Power Hack Saw Bolt-Cutters Chains Vice Grip Pliers
1. Reassure the patient and explain each activity to alleviate his/her fear surrounding activity.	
2. Determine the inhibiting article which is to be removed or displaced. (If the article is the steering column, go to Task Element #6.) (If the article is the dashboard, go to LOOP 10.) (If the article is the pedal, go to LOOP 11.) (If the article is the seat, go to LOOP 12.) (If the article is the windshield, go to LOOP 13.) (If the article is any other, i.e., structural steel, go to LOOP 14.)	
3. Determine which section of the steering wheel should be removed and mentally locate two points where the steering wheel should be cut.	Assumes that the inhibiting article to be displaced is the steering wheel.
4. Once the cutting points have been determined, with the vise grips, twist off the plastic covering of the steering wheel at those points.	By removing the plastic covering, the diameter of the steering wheel is reduced; it does not require as much room to open the jaws of the bolt cutters.

EXTRICATION

TASK III (CONTINUED)

DISENTANGLEMENT

ELEMENTS	EXPLANATION
5. With the bolt cutters, sever the steering wheel in the two points and remove the section. (If the steering column is not a problem, go to Task Element #9.)	To manipulate the bolt cutters and to have enough room, it may be necessary to remove the front windshield for added space. (If this is the case, see Task "Access and Entry to the Patient.") Assumes that the steering column is also an inhibiting factor. To manipulate the steering column, it is necessary to remove the front windshield. (If this has not already been done, refer to task "Access and Entry to the Patient.")
6. Once the windshield is removed, attach a chain to the steering column by wrapping it around the column in a figure eight configuration around the steering wheel.	When attaching the chain to the column, it is necessary to attach the chain as far away from the dashboard as possible. In doing this, greater leverage on the steering column is experienced.
7. Attach one end of the chain to the come-along and then attach the come-along chain to a frame member of the front of the automobile.	It may be necessary to attach separate chains to the steering column and the frame member and then position the come-along in the middle.
8. Crank the come-along to relocate the steering wheel.	As the tension is put on the chain, it may be advisable to place blocks of wood under the chain where it bends over a member of the auto (i.e., over the front of the hood.)
9. Determine if all inhibiting articles have been removed. (If further emergency care is necessary, go to appropriate task.) (If there are still some present, go to Task Element #2.) (If patient is ready to be transported, go to Task "Transportation" Module VIII)	

HAZARDS

NOTES

Note 1

When positioning flares to alert oncoming vehicles of an accident, the following table provides guidelines for positioning those flares.

POSTED SPEED LIMITS	AVERAGE STOPPING DISTANCE (FEET)	FLARE POSITION (POSITION OF FIRST FLARE)	NO. OF STRIDES
20	50	70	25
30	75	105	35
40	125	165	55
50	175	225	75
60	275	335	110
70	375	450	150

After the position of the first flare has been determined, a flare should be placed:

One every ten feet with good visibility

One every six feet with poor visibility (e.g., fog, rain)

HAZARDS

LOOP 1

Downed Wires

ELEMENTS	EXPLANATION
	Assumes that the hazard to be dealt with is downed electrical wires. Further assumes that at least one of the groups of equipment is available for use by the rescuer. Group I Clamp Stick Lineman's gloves (tested 20,000 volts) Rubber mat Group II Polypropolene Rope - 50' length with weighted ends Fiberglass Pike Pole (If the equipment is not available, the rescuer should not attempt to handle the downed wire but should contact the local power company for assistance.)
1. Assure the victims that everything is being done that can and that they should stay in the car. (If tools in Group I are to be used, go to Element #6.)	If it is necessary for the victims to leave the car because of some other danger, i.e., fire, then the victims should be instructed to jump free of the car, being sure not to touch the car and the ground at the same time. (Having the victims jump from this car is not recommended procedure.)
2. The rescuer should carefully approach the vehicle to approximately 20 feet.	The downed wire will energize the ground and in doing so, the rescuer may experience a tingling sensation in the legs as he/she approaches the wire. If the rescuer does feel this tingling, he/she should immediately back away until the tingling is no longer felt.
3. Holding the rope loosely coiled, the rescuer should throw one end of the rope under the downed wire, being sure to have the other end secured.	If the end is not secured when the rescuer throws the line, the entire rope may be thrown under the wire.

HAZARDS

LOOP 1 (CONTINUED)

Downed Wires

ELEMENTS	EXPLANATION
4. The rescuer should then throw the other end over the wire.	If the rescuer throws both ends of the line either over or under the wire, he/she will have to retrieve the rope and begin again.
5. The rescuer should then walk around to the open rope ends, and with the pike pole, take hold of the ends of the rope. Then, the rescuer should walk away dragging the energized wire from the vehicle.	The rescuer should always watch the end of the wire because of the possibility of the wire jumping and sparking.
6. The rescuer should check the gloves for possible leaks by twisting open and shut and squeezing the gloves. If air leaks out of the gloves, it is possible that water would get in and void the insulating effect of the gloves. (If the gloves have a leak, they should not be used; and the effort should be halted.)	
7. Standing on the rubber mat, the rescuer should grip the clamp stick firmly with two hands while wearing the gloves.	The rescuer should stand on the mat whenever possible to add to the insulation. The rescuer should be extremely careful when working in an area where the ground is wet.
8. After pushing the slide grip forward to open the gripping jaws, the rescuer should grasp the wire approximately 18 inches from the end, and then pull back the slide grip to close the jaws.	When holding the clamp stick, the rescuer should keep it as far away from the body as possible at all times.
9. Once the rescuer has a firm grip on the wire, the wire should be maneuvered away from the vehicle as far as possible.	
10. Once the wire is removed from the vehicle, it should be weighted down by dropping a ladder or some other heavy object on it. The area should be roped off and clearly marked in some way to prevent injury to someone who is not aware of its presence. (Go to Task Element #6.)	When weighting the end down, the heavy object should be thrown on the end. At no time should the object be in contact with the rescuer and the wire simultaneously.

HAZARDS

LOOP 2

Fire and/or Explosive Materials

ELEMENTS	EXPLANATION
	Assumes that the hazard encountered is a fire and/or explosive materials. It is further assumed that the responding vehicle is not equipped with more than a 10# dry chemical extinguisher.
1. One rescuer should quickly summon the assistance of the local fire department or special rescue squad. (If fire is already burning, go to Element #4.)	In many cases, the fire department automatically responds and will be available at the scene when the ambulance arrives.
2. Establish a safety zone, and within that safety zone, prohibit any movement or use of metal tools or anything else which might cause a spark.	Activity should be kept to a minimum to reduce the possibility of igniting the explosive material. Upon arrival of the rescue team, it is hoped that they will have the capability of using high-expansion or protein foam to stabilize the material and reduce the possibility of ignition.
3. Evacuate victims, if necessary. (If no fire is present, go to Task Element #6.)	The victims should be evacuated only if there is an immediate danger to their lives. Any movement within the safety zone established increases the probability of an explosion and/or fire.
4. The rescuer should evaluate the fire to determine if the equipment available is enough to extinguish the fire. (If the extinguisher is sufficient, the rescuer should proceed to extinguish the fire.)	
5. (If the extinguisher is not sufficient, the rescuer must assist the victim from the scene, if possible.) (Go to Task Element #6.)	The rescuer should not attempt to extinguish a fire with inadequate equipment. The rescuer must decide whether it is possible to assist the victims without uselessly risking his/her own life. Each situation will be different and must be judged accordingly.

HAZARDS

LOOP 3

Dangerous Materials

ELEMENTS	EXPLANATION
	Assumes that some type of dangerous material is the hazard (i.e., leaking chlorine gas).
1. One rescuer should quickly summon the assistance of the local fire department or rescue squad. The rescuer should also attempt to locate a group that is familiar with the dangerous material and its properties.	Using the example of the chlorine gas, there may be a plant or factory in the area which uses chlorine gas in every-day operation. Those individuals would be of great benefit in trying to control or neutralize the material. In a situation such as this, it is the responsiblity of the rescuer to call upon all the sources available which might be of assistance.
2. The rescuer should establish a safety zone and keep bystanders at a safe distance.	
3. The rescuer should evacuate the victim, if possible.	The rescuer must decide whether it is possible to assist the victim without uselessly risking his/her own life. Each situation will be different and must be judged accordingly. The rescuer should take all safety precautions available.
(Go to Task Element #6.)	

HAZARDS

LOOP 4

Radioactive Materials

ELEMENTS	EXPLANATION
	Assumes that the hazard encountered is radioactive materials.
1. One rescuer should quickly summon the assistance of the local rescue squad. The rescuer should also locate a group which is familiar with radioactive materials and has the capability of dealing with it.	Radioactive materials should only be handled by those individuals who are properly qualified and properly equipped to do so.
2. A rescuer (or the police) should remove bystanders as far from the vehicle as possible.	If wind is blowing, bystanders should be kept as far as possible out of the path and upwind.
3. If the patient must be rescued, the evacuation of the victim should be as rapid as possible.	The rescuer should not approach the patient unless absolutely necessary without protective clothing and breathing apparatus. Any effort to rescue the victim should be only in cases of imminent danger. The rescuer should not needlessly risk his/her life.
4. The rescuer should maintain the situation until qualified assistance arrives. (Go to Task Element #6.)	

HAZARDS

LOOP 5

Vehicle Instability

ELEMENTS	EXPLANATION
	Assumes that the hazard encountered is that the vehicle is unstable, and any attempt to enter the vehicle may cause it to shift, further injuring the patient and/or endangering the rescuers.
1. Reassure the patients concerning their situation and control the activity of the bystanders so as not to endanger the victims or themselves.	
2. If a rope is to be used to stabilize the vehicle, the rope should be secured to a frame member of the vehicle and then to a stable object; i.e., fire truck, large tree. A minimum of two ropes should be used to stabilize the vehicle with the second rope stabilizing the vehicle at a different angle from the first.	
3. If cribbing is to be used, the cribbing should be built under a post or the frame to give support to the vehicle.	Cribbing is built by alternating blocks of wood or other material in a criss-cross pattern with a minimum of twelve inches square.
4. Alternate materials may be used such as the spare tire or the auto jack. These pieces of equipment would serve the same purpose as the cribbing, and again should be placed under a post or the frame.	With the newer auto jacks which have only a notch for bumper support, it may be necessary to notch the body with an axe to use the jack.
(Go to Task Element #6.)	

HAZARDS

LOOP 6

Other Hazards

ELEMENTS	EXPLANATION
	It is assumed that the hazard encountered is something other than the hazards identified.
1. Assess the scene to determine the extent and nature of the existing hazard.	
2. Reassure patient concerning his/her situation.	
3. Control the activities of the bystanders so as not to endanger them or the victim.	
4. Determine what assistance is required and call for such assistance.	
5. The rescuer should wait for assistance if the problem is something he/she cannot personally handle.	The only case to which the rescuer should react is when the victim is in imminent danger. If the victim is not in danger, adequate precautions should be taken to deal with any hazard in the most efficient manner. The rescuer must determine whether it is possible to assist the victim without uselessly risking his/her own life. Each situation will be different and must be judged accordingly.
(Go to Task Element #6.)	

ACCESS AND ENTRY TO THE PATIENT

LOOP 7

Access Through Side Window

ELEMENTS	EXPLANATION
	Assumes that the side window has been chosen as the point of access. It is further assumed that the following equipment is available: Contact Paper and/or Masking Tape Sharp Pointed Object (i.e., Center Punch, Axe)
1. Select a window which is furthest from the patient, but will allow the rescuer access to the patient. (If the window is to be pried back, go to LOOP 8.)	Because of the problem of glass fragments in open wounds, it is essential that every precaution be taken to prevent fragments from entering the wound. To gain access, it may only be necessary to shatter a vent window.
2. If an opening to the patient is available, a blanket or cover should be thrown over the victim for protection from the glass.	Again, the victim should be protected from glass fragments.
3. The window selected should be covered completely with either the contact paper or masking tape.	The rescuer should be sure that the contact paper or the masking tape is adhering to all parts of the glass.
4. Once the tape or paper is in position, the rescuer should take a sharp point and gently tap at one corner of the window until the glass shatters.	Because of the properties of tempered glass, when the glass is struck and cracked, it will shatter over the entire window.
5. Gently, the rescuer should peel back the glass and the tape and remove it from the window frame.	Care should be taken to remove the glass as to limit the spread of the glass. If available, the glass should be placed in a container or in a place where the glass will not potentially be dangerous to bystanders or rescuers.
6. The rescuer should reach inside the door and roll down the window frame. This will remove any of the glass fragments left in the frame and clear the access route for the rescuer. (Go to Task Element #6.)	

ACCESS AND ENTRY TO THE PATIENT

LOOP 8

Access Through the Door

ELEMENTS	EXPLANATION
	Assumes that the removal of the door has been chosen as the procedure for access. It is further assumed that the following equipment is available: Pry Bar Schild Tool 40 oz. Short Handle Sledge Screwdriver Wire Rod Ten-Ton Porta-Power
1. Select the door which is to be opened. (If the door can be opened by unlocking only, go to Element #7.)	If the door is to be pried or forced open, it would be best to attempt access through an already damaged door. If, however, the door may be opened by merely unlocking it, an undamaged door should be selected.
2. Determine the year of the car. Year of the car may be determined by looking at the rear brake light for the serial number. Last two digits indicate year.	If the car was made after 1967, it is probably equipped with the Nader safety lock which is extremely difficult to spring. If, however, the auto was manufactured before 1967, the locking mechanism can be pried apart with a pry bar in most cases.
3. If the car is older than 1967, then place the pry bar in the seam between the door and the frame and pry the door open.	If it is impossible to get the pry bar in the seam, then a larger opening may be made by hitting the door about twelve inches in from the seam. This will cause the door to buckle and open the seam.
4. If the car is newer than 1967, it will be necessary to use the porta-power. Place the tip of the duck-bill jaw in the seam of the door and expand the jaws.	Remember that the patient must be kept informed as to the activities of the rescuers so that the noise does not further aggravate his/her condition.
5. Then position the pry bar to maintain the opening in the seam and release the pressure on the porta-power.	

ACCESS AND ENTRY TO THE PATIENT

LOOP 8 (CONTINUED)

Access Through the Door

ELEMENTS	EXPLANATION
6. Reposition the jaws further in the crack and reopen the jaw. Continue this procedure until the door is sprung open. (Go to Task Element #6.)	
	Assumes that the door can be opened if the mechanism is unlocked or sprung.
7. With the Schild Tool and the sledge, cut around the door handle and the keyhole (if keyhole is there), and fold the metal sheeting back as to expose the mechanism.	
8. Examine lock and locate the mechanism that is the locking mechanism. Push this locking mechanism so that it is in the neutral position.	The locking mechanism may be found by tracing the cable or rod from the lock button into the mechanism. It may be necessary to try a few different movements, but the mechanism can easily be found through trial and error.
9. Once the locking mechanism is in a neutral position, push in on the plate as the door plunger would do if it were still in place and open the door. (Go to Task Element #6.)	If it is only necessary to unlock the door to get it open, and no damage has been done to the door, it may be possible to unlock the door by prying back the window glass and with a screwdriver or wire rod, reach inside the car and lift the lock button to release the mechanism.

ACCESS AND ENTRY TO THE PATIENT

LOOP 9

Access Through the Body

ELEMENTS	EXPLANATION
	It is assumed that the body of the vehicle has been determined to be the best access point. It is further assumed that the following equipment is available: Flat-Head Axe, 8# Sledge, Four-Ton Porta-Power, Screwdriver, Tin Snips, Hack Saw, Air Chisel, Gold Chisel, Hammer, Pry Bar
1. Select the part of the body to be used as the access point. (If the access is through the floor, then go to Element #5.) (If access is through the trunk, then go to Element #8.)	Be sure to inform the patient of what is being done and why, so as to alleviate his/her fears.
2. With the axe and sledge, cut along three edges of the roof, being sure to cut a minimum of twelve inches from the edge of the roof. Before the rescuer begins to cut, he/she should always check to locate the position of the victims to avoid hitting them and causing further damage.	By cutting twelve inches in from the edge, the rescuer will avoid the support structure of the roof.
3. Once three sides have been cut, the roof may be rolled back as if opening a sardine can.	The ceiling cloth may be used to pad the edge of the roof where it has been cut. This is an added safety feature for the rescuer.
4. It is then necessary to remove the ceiling cloth and support beams from the roof. (Go to Task Element #6.)	An alternate method to remove the roof might be to cut the "B" and "C" posts of the vehicle with an air chisel and then lift the roof off toward the front using the "A" post as a fulcrum. This can only be done if the rear window has been removed. It is, therefore, only recommended in cases where removal is the next step. This is very time-consuming and should not be used to gain access.

ACCESS AND ENTRY TO THE PATIENT

LOOP 9 (CONTINUED)

Access Through the Body

ELEMENTS	EXPLANATION
	Assumes that the floor has been selected as the point of access.
5. Determine the location of the patients and select the position for entry.	The point of entry should be as far away from the patients as possible but yet should provide access to the patients. Then selecting a point of entry, it will be necessary to determine the position of the seats and select a site which is the floor board either in the front or back seat.
6. Once the site has been selected, the floor board may be cut the same as was the roof, with an axe and sledge, or air chisel.	Access through the floor is much more difficult because of the frame being on the floor structure. It is also necessary to be concerned about such things as the gas line when cutting the metal. Severing the gas line would cause a great complication in the rescue effort..
7. Once the floor has been cut and peeled back, remove the floor rug, again using it as padding on the cut edges. (Go to Task Element #6.)	
	Assumes that the trunk has been selected as the point of access.
8. First, pry open the trunk lid using the same technique as described in LOOP 2 for prying open a door.	When prying the trunk lid, the porta-power should be used if available.
9. Once access has been gained to the trunk, it will be necessary to remove the upper part of the back seat. To do this, take a hammer and cold chisel and remove the screws along the top edge of the seat.	An alternate method for getting through the seat would be to cut the metal support strips with the tin snips, cut through vinyl covering, and remove springs. This technique is very time consuming and is not recommended unless necessary.
10. The seat should then lift out when pushed forward. (Go to Task Element #6.)	

DISENTANGLEMENT

LOOP 10

Disentanglement from the Dashboard

ELEMENTS	EXPLANATION.
	Assumes that the dashboard is the inhibiting article.
1. Determine which segment of the dashboard is inhibiting the patient.	
2. Using the porta-power and extension adapters, position the porta-power such that it will push against the segment of the dashboard to be moved.	When positioning the porta-power, be sure that the foundation of the porta-power is resting on a firm surface, preferably a frame member. The floorboard of the vehicle should not be considered sturdy enough to support the porta-power. When using the porta-power, two people should do it. One person manipulates the jaws or attachments and the second person is in charge of pressurizing and releasing the hydraulic chamber. The person manipulating the jaws is always in charge and should give the command to "pump" or to "back off." Because of the various attachments of the porta-power, it is necessary for those individuals who will have cause to use it to experiment with the porta-power and the attachment.
3. Activate the porta-power and push the dashboard away from the vehicle. (Go to Task Element #9.)	In working in such a close proximity to the victim, it is essential that every precaution be taken. The porta-power should be watched closely to see if the grip is slipping. If the porta-power should spring free, it would cause further aggravation of the victim's injuries. An alternate method in removing the dash would be the same procedure as identified for removing the steering column in elements 6-8 of the task. The come-along may be used to pull the dashboard up and away from a victim.

DISENTANGLEMENT

LOOP 11

Removal of Pedals

ELEMENTS	EXPLANATION
	It is assumed that the pedals are an inhibiting factor and must be relocated.
1. Determine which pedals should be displaced and in which direction the pedals should be displaced (straight up, to the left, to the right).	
2. Once the direction and pedal have been determined, tie the rope to the pedal selected.	
3. Then depending upon which direction the pedal is to be displaced, run the rope outside the car. If the pedal is to be displaced straight up, then run the rope up over the steering column and then out the door. If the pedal is to be displaced to the left, then run the rope out the left door and vice versa with the right.	
4. Once the rope is in position, tie the rope to the door handle or frame member of the door.	If no functional door is available, then skip this element.
5. Forcefully swing the door open and the pedal should be displaced.	If no door is available, the same may be accomplished by merely pulling on the rope. By attaching the rope to the door, it gives the rescuer added leverage.
6. Determine if the pedals have been displaced. (If the pedals have not been displaced, go to Element #1 of this loop.) (Go to Task Element #9.)	

DISENTANGLEMENT

LOOP 12

Displacement of the Seat

ELEMENTS	EXPLANATION
	Assumes that the seat must be displaced to disentangle the patient.
1. Determine which side of the seat should be displaced first. (If the come-along is to be used, go to Element #4.)	It may be necessary to displace one side. However, should the second side need to be displaced, the procedure outlined should be repeated.
	Assumes that the porta-power is to be used.
2. Using the duck-bill jaws on the porta-power, position the jaws underneath the tracks of the seat on the determined side.	
3. Activate the porta-power, opening the jaws and prying the seat up. If necessary, relieve the pressure, close the jaws, and reinsert the jaws. Continue this process until the seat is released. (Go to Task Element #9.)	When positioning the jaws, it may be possible to insert them under the total track, at which point you are trying to pry the track from the frame. Usually this means breaking three or four bolts. You may also position the jaws between the slides of the track and pry them apart. In either case, the results are the same. In some instances, one method is more difficult than the other, so if difficulty is encountered, reposition the jaws to the alternate method.
	Assumes the come-along is to be used.
4. Attach a chain to the base of the seat near the tracks.	
5. Attach a second chain to a frame member of the vehicle in the rear. Then position the come-along between the two chains.	To proceed in this manner, it is necessary for the rear window to be removed. If the patient is in the rear, then the procedure can be reversed by running the chain through the front window.
6. Crank the come-along until the seat is displaced. (Go to Task Element #9.)	It may be necessary to reposition the chains during the process.

DISENTANGLEMENT

LOOP 13

Disentanglement from the Windshield

ELEMENTS	EXPLANATION
	Assumes that the victim was thrown through the windshield, but is still impaled on it. Further assumes that the following equipment is available: Trauma Dressings Pliers Gloves
1. Determine the extent of soft tissue injury to the head and neck.	In most cases where the victim is partially thrown through the windshield, the head is forced through the windshield, but the shoulders do not go through the glass. It is also common that the ears are avulsed in such instances.
2. Treat the soft tissue injuries as indicated, being sure to stabilize the head and neck.	The rescuer should gently grip the head on either side applying slight traction and supporting the head so that the neck is not resting on the glass edge. Any slight movement might sever the carotid arteries if the neck is allowed to rest on the glass.
3. Once traction is applied and the neck is supported, place a dressing or towel around the victim's neck to prevent glass from falling on it, and a towel on the lower edge of the glass to protect the carotid arteries.	
4. Once the towel is in place, slowly break away the glass from around the victim's head, being sure to grip and hold each piece as it begins to break away.	
5. Once there is adequate room around the victim's head, apply a cervical collar, and move the victim away from the windshield. (Go to Task Element #9.)	

DISENTANGLEMENT

LOOP 14

Displacement of any other Inhibiting Articles

ELEMENTS	EXPLANATION
	Assumes that the object which needs displaced is something other than those already identified.
1. Access the situation to determine the extent and nature of the existing entrapment.	
2. Reassure the patient concerning the situation.	
3. Determine what assistance and equipment is required and call for such assistance.	
4. Proceed with disentanglement being sure to protect the patient as much as possible from further aggravation.	Because of the large variety of problems which arise, it will be necessary for the rescuer to evaluate the situation and call upon any community resources available which can be of assistance. The primary concern of the rescuer should be to maintain the status of the patient and avoid further aggravation or injury to that patient.

MODULE X

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

BEHAVIORAL OBJECTIVES

INTRODUCTION

This lesson contains objectives developed from a task analysis of providing emergency care to an emotionally disturbed patient. There are two sets of terminal objectives the students are expected to be able to complete by the end of all the instruction. One set consists of those skills required to restrain a combative patient on a stretcher. The other set consists of knowledge objectives which relate to the task of restraining a combative patient and to the general problems of handling emotionally disturbed patients. The knowledge objectives contain the knowledge the students need to know in order to display the skills or tasks of restraining a combative patient and of handling emotionally disturbed patients.

More emphasis is placed on the cognitive (knowledge) behaviors in this lesson than the skill behaviors because there are no set rules that can be applied to every situation involving an emotionally disturbed patient. These situations are very delicate, and every student will develop his or her own way of managing these patients. This lesson, therefore, is geared toward the knowledge a student should possess in managing emotionally disturbed patients.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the students will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80 percent of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a list of activities, the student will be able to correctly identify the first activity to be performed by a rescuer when arriving at the scene involving an emotionally disturbed patient.

2. Given a list of responses, the student will be able to correctly identify the best response to give an emotionally disturbed patient who asks, "Where do you plan to take me?".

3. Given a list of conclusions, the student will be able to identify which conclusion(s) should be drawn about a patient displaying abnormal behavior with alcohol on his/her breath.

4. Given a list of activities, the student will be able to identify the correct activity(ies) to perform when confronted with an emotionally disturbed patient who

   A. is homicidal and/or suicidal, and
   B. unwilling to be committed.

5. Given a list of activities, the student will be able to identify the correct activity(ies) to be performed when transporting a female emotionally disturbed patient.

6. Given a list of locations, the student will be able to identify the correct location the rescuer should take in relation to an emotionally disturbed patient and the ambulance doors during transportation.

7. Given a list of causes, the student will be able to correctly identify those causes that might account for abnormal behavior. The list will include items, such as:

   A. Alcohol
   B. Drugs
   C. Epilepsy
   D. Diabetes
   E. Head injuries
   F. Hardening of arteries
   G. High blood pressure
   H. Severe infection
   I Paranoia or other psychiatric problems

8. Given a list of symptoms, the student will be able to recognize those symptoms associated with each of the following:

   A. Alcohol withdrawal
   B. Intoxication
   C. Use of marijuana
   D. Use of hallucinogens
   E. Use of narcotics
   F. Barbiturates
   G. Stimulants

9. Given a list of activities, the student will be able to select the correct activity(ies) to perform when treating a patient suffering from drug poisoning.

10. Given lists of common names, the student will be able to correctly select the common names for the following drugs:

    A. Marijuana
    B. Barbiturates
    C. Stimulants
    D. Hallucinogens
    E. Narcotics

11. Given a list of activities, the student will be able to identify the correct activities to perform while treating an acutely intoxicated patient.

12. Given a list of situations, the student will be able to correctly identify the situations in which a rescuer can restrain or transport a patient forcibly against his/her will. The list, among other items, will contain:

    A. A request by the patient's family.
    B. A request by the bystanders.
    C. A request from a doctor.
    D. A patient exhibiting homicidal or suicidal tendencies.

13. Given the following information describing a situation involving an emotionally disturbed patient:

    Situation: Dispatcher has called you to the scene, has made arrangements for the proper commitment forms, and has given you the following information:

    A. Patient is male.
    B. 29 years of age
    C. Patient is being treated by psychiatrist for some sort of emotional disturbance
    D. Patient became threatening and violent when told he was going to be laid off with other people by his boss (gives name) and
    E. Patient is in his office (location given) with a sharp letter opener threatening co-workers.
    F. Police have been contacted.

Upon arriving at the scene, you locate the patient and his boss in the patient's office; as of yet, the police are not there. You enter the door to the office and find the patient with a letter opener pointed at the boss, and you hear the following:

Patient: "I am going to get them, all of them. They aren't going to do this to me. They think their smiles and grins are going to fool me, but they're not...."

Boss: "Settle down, George. No one is out to get you. You are being paranoid and must immediately stop this behavior...."

Patient: "They are talking about me...spreading rumors about me... I am not going to wait for them to come to me. I'll show them...and I'll start with you...."

Boss: "George, who are 'them'? You are being paranoid...I have never treated you unfairly...and now look what you are doing to me...Don't threaten me you... insane maniac...."

Patient lunges forward at the boss but misses and steps backwards to his original position.

Given a list of activities, the student will be able to correctly identify the first activity to be performed in this situation.

14. Given the above situation and a list of responses, the student will be able to correctly identify what things should not be spoken to the patient. The list will contain, among other items, such things as:

    A. "Give me that letter opener."
    B. "I see you don't like your boss."
    C. "I am here to help you."
    D. "Why don't you like your boss?"

15. Given the above situation and a list of responses, the student will be able to correctly identify the best response to give the patient who asks, "Who are you and what are you doing here?"

16. Given the above situation and a list of verbal reactions, the student will be able to correctly identify the best words to say to the patient to get him to calm down.

17. Given the above situation and a list of responses, the student will be able to correctly identify the best response to give the patient when he asks, "Aren't I right...Don't you think that this is the way it should be...."

18. Given that the patient in the above situation has calmed down (i.e., there are no signs of violence) and a list of phrases, the student will be able to correctly identify what phrase would be the best to use to ask the patient to accompany him/her to the hospital.

19. Given the above situation and a list of strategies, the student will be able to correctly identify the strategy(ies) to use when the patient says "...but you...you're just a nobody like the rest of us...Your job isn't important...Who do you think you are...You're a nobody, a dummy..."

20. Given the above situation and a list of responses, the student will be able to correctly identify the response to give the patient when he says, "No, I'll not go with you. You are out to get me too..."

21. Given a list of activities, the student will be able to correctly identify which activity(ies) should be undertaken when an emotionally disturbed patient physically attacks the rescuer.

22. Given a list of procedures, the student will be able to correctly identify the procedure(s) to use when confronted with an emotionally disturbed patient who is noncombative.

23. Given a list of locations, the student will be able to correctly identify the locations where straps are used to restrain a patient on a stretcher, either when the patient is on the back or stomach.

24. Given a list of causes of emotional disturbance, the student will be able to identify those items which cause fear and apprehension in child patients. The list among other items will contain:

    A. Insecurity in a strange situation
    B. Separation from parents
    C. Failure to understand what is seen
    D. The patient's observation of pain and the suffering of others
    E. The patient's own pain
    F. Dislike for strangers
    G. Inability to communicate effectively

25. Given a list of medical problems, the student will be able to select hypovolemic shock as a possible medical problem which may result from the observation of a traumatic situation. The list, among other items, will include:

    A. Hypoglycemic shock
    B. Hypovolemic shock
    C. Hyperglycemic shock
    D. Hypertensive shock
    E. Hypervolemic shock

26. Given a list of situations, the student will be able to correctly identify the situations in which the child bystander should be removed from the situation.

27. Given a number of statements which could be used to describe a patient's condition, the student will be able to correctly select those statements which are most appropriate for the age of the patient as described. The list of statements, among other statements, will include:

A. For a male, age 6 - "I know your leg hurts, but your dad and I will be very careful and we'll see that you get all fixed up."
B. For a female, age 8 - "It appears you have fractured your arm and once we immobilize it, we can transport you to the hospital."
C. For a male, age 3 - "Your mother is right here and she'll take care of you so you'll be okay. We'll take care of your arm and you'll be okay."

28. Given a list of activities, the student will be able to identify the correct activities to perform when child abuse is suspected.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

SKILL OBJECTIVE

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given cravats, a multi-level stretcher or a portable stretcher, restraining straps, and a student posing as a combative patient, the student will be able to correctly restrain the patient on the stretcher. As minimum behavior the patient should be restrained in such a way that (a) movement is prevented, (b) the restraints could not cause potential physical problems to the patient, and (c) minimum reasonable force is used. Each of these criteria will be judged by the instructor.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will be responsible to:

1. Distribute the student activity sheet and handouts during the class period prior to beginning this module. Assignments are:

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 417-421, 483-486.

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 187-197.

2. This module is planned for 6 hours. The lecture will involve the use of transparencies. The content of the lecture is specified in the Module Outline.

   A. Transparencies are from the EMERGENCY CARE SERIES, Unit 8: 8 to 34. Robert J. Brady Company.

   B. Transparencies are from the EMERGENCY CARE OF THE EMOTIONALLY DISTURBED, (included in this module) 1 to 11.
   (These also could be reproduced to use as handouts during the lecture.)

   C. References:

      (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons), (1977). 2nd Edition. Pages: 285-298.
      (2) Advanced First Aid and Emergency Care, by American National Red Cross, (1973). 2nd Edition. Pages: 118-133, 245-246.
      (3) Basic Life Support Skill Manual, by Charles Phillips, M.D., (1977). 2nd Edition. Pages: 133-137.
      (4) Basic Emergency Medicine, by Robert H. Miller and James R. Cantrell, C. V. Mosby Company, (1975). Pages: 190-198.
      (5) Psychotropic Drugs. A manual for Emergency Management of Overdosage, by Nathan S. Kline, M.D., F.A.C.P., Stewart F. Alexander, M.D., F.A.C.P., and Amparo Chamberlain, R.N., (1974). Medical Economics Company, Oradell, New Jersey 07649.

3. Prepare notes and conduct the demonstration session. The demonstration consists of the procedures to restrain a combative patient.

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

5. After the practice session and lecture, the instructor will evaluate the student's ability to perform each of the skills. The student's skills can be evaluated separately or collectively. In addition, each student will be required to take a written examination. After completing the evaluation, the instructor will advise the student on his/her progress and suggest remedial instruction, if appropriate.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and Chalkboard
Overhead Projector
Screen

Medical

Cravats (twenty-four)
Restraining Straps (eighteen)
Multi-Level Stretcher

MATERIAL

Task Sheets
Skill Development Checklist
Skill and Knowledge Objectives
Skill and Evaluation Sheet
Written Examination
Transparencies - Emergency Care Series Unit 8; also, those included in this module.

AUDIOVISUALS

Transparencies are from the Emergency Care Series, Unit 8: 8 to 34.
Robert J. Brady Company.
Transparencies are from the Emergency Care of the Emotionally Disturbed.
(1 to 11)

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 417-421, 483-486.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 187-197.

3. Student Skill Development Checklist for Emergency Care of the Emotionally Disturbed. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

4. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

5. Student Skill Development Checklist begins on next page.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

6. Before leaving this module the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTORS INITIAL
A. Restraining a Combative Patient			
1. Wrist restraints			
a. prone position			
b. supine position			
2. Ankle restraints			
3. Secure to stretcher			
a. prone position			
b. supine position			
4. Circulation adequate post restraining			

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

LECTURE TOPICS	REFERENCES

I. Emotionally Disturbed Patients

- A. Definition - When emotions rule over judgement and the resulting behavior is not socially functional and/or acceptable
- B. Causes of behavior change
  - 1. Trauma effecting brain function (e.g., head injury and any trauma resulting in shock)
  - 2. Bio-chemical imbalance (e.g., hyperglycemia and toxic substance injected or produced in the body) affecting brain function
  - 3. Organic medical problems (e.g., C.V.A. hypertension and arteriosclerosis) affecting brain function
  - 4. Drug abuse
    - a. types of
    - b. effects of
    - c. related medical problem
    - d. alcohol
      - (1) stages of withdrawal
      - (2) effects
    - e. treatment
  - 5. Psychiatric problems (neurosis and psychosis) resulting in behavior change
- C. Types of behavior encountered (usually seen in combination)
  - 1. Combative
    - a. verbal threats
    - b. very physically active and aggressive
    - c. often confused

LECTURE TOPICS	REFERENCES
2. Passive	
a. withdrawn from others	
b. doesn't want to talk or do anything	
c. stubborn	
3. Hallucinatory	
a. bizarre statements	
b. reacts to unobservable occurrences	
c. may not be able to respond to conversation	
4. Hysterical	
a. may hyperventilate	
b. may be very physically active or passive	
c. usually an immediate cause	
5. Depressed	
a. feels "down in the dumps"	
b. withdrawn from others	
c. sometimes tired	
d. may become violent	
6. Paranoid	
a. patient thinks someone or everyone is "out-to-get him"	
b. may be dangerous	
D. Patient assessment	Task I Element 1
1. Gather history from	
a. patient (if possible)	
b. family members or bystanders	
2. Observe patient environment to look for any possible causes of behavior change and any actions the rescuer can take to resolve the problem	
3. Determine if the patient is violent enough to cause injury to those in the area	Element 3

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

LECTURE TOPICS	REFERENCES
II. Sequence of events to an ambulance call	
A. Dispatcher responsibilities	(Dispatch) Task I Module XIII Element 3
1. Detection of this type of call by statement of caller or unusual behavior of caller	
2. Inform caller of the need to contact MHMR if patient does not wish to receive treatment	
3. Gather information to provide the best possible description to crew	
B. Travel to the scene	
1. Use lights and siren only if someone is injured and in a life-threatening condition	Element 6
2. Assemble equipment to be used while enroute	(Travel) Task II Module XIII Element 5
a. restraining straps	
b. cravats for restraining	
C. Arrive at scene	
1. If possible, leave cot and straps in vehicle to prevent further emotional distress	
2. Gather patient history from patient's family or bystanders if movement to the patient can be delayed	
3. Determine immediate problems	
4. If possible, separate patient from the cause of the immediate problem	
5. Talk to the patient to reassure him that no harm will come to him	
a. don't lie	
b. don't become defensive under verbal attack	

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

LECTURE TOPICS	REFERENCES
c. try to convince the patient to go voluntarily	
6. Place patient on cot for transportation	
a. if patient will not go voluntarily, "reasonable force" may be used to restrain the patient	
b. If patient resists and is violent, restrain if necessary	* Emotionally disturbed loops
(1) place in face down position	
(2) apply 1 cravat to each extremity with a clove hitch	
(3) use 2 cravats to cross and tie arms and legs together at wrists and ankles	
(4) secure the tails of the extremity cravats to opposite sides of stretcher frame (e.g., left arm cravat to right side tubular aluminum frame of cot, not stretcher rail)	
(5) secure patient's upper body with a 9' strap around thorasic spine, upper chest and stretcher frame	
(6) secure patient's middle body area with a 9' strap around lumbar spine area and stretcher frame	
(7) secure patient's lower extremities with a 9' strap around both legs just above the knees and around stretcher frame	
DEMONSTRATION	

LECTURE TOPICS	REFERENCES
7. If patient is being transported but not restrained: a. have patient lie down b. position rescuers between patient and doors.	
C. Constantly be alert for behavior that may cause harm to patient or rescuers. 1. Restrain enroute if necessary. 2. Don't over-react or appear anxious since the patient will probably react adversely.	
D. If patient is female, make a serious attempt to have a female in the ambulance with the patient.	
E. If patient is transported under arrest, have police officer accompany patient if possible.	
III. Management of Children	
A. Another type of acute emotional disturbance	
B. One of the most difficult situations for the rescuer to handle involves an injured child. 1. The rescuer with children tends to think of his/her children and the pain they would suffer in a similar situation. 2. Rescuers often become more emotionally involved than usual.	
C. Child patients are more susceptible to extreme fear than adult patients.	

LECTURE TOPICS	REFERENCES
1. Children are accustomed to a secure environment and in the emergency situation, there is little security 2. May be separated from parents and other family members 3. May not have developed the intellectual ability to understand what is seen 4. May never have seen someone in extreme pain before (becomes worse if patients are suffering) 5. May never have experienced severe pain before 6. Children do not usually deal with strangers and may not like them 7. The child may not be able to communicate effectively D. The fears of children and their inability to act in a rational manner may require the rescuer to survey and diagnose their medical problems as if they were unconscious 1. No information may be provided by the child 2. The rescuer must observe signs and symptoms and diagnose on that information alone E. Child abuse related injuries 1. Occurs more frequently than ever before 2. The rescuer may be the best one to uncover the child abuse situation a. often the first medical person to see the child b. may be the only authority to enter the patient's home	

LECTURE TOPICS

REFERENCES

3. The rescuer should not attempt to reprimand the child abuser if discovered nor act in any law enforcement role
4. Any injuries which may have been the result of a child abuse situation should be reported to local law enforcement officials
    a. report injuries that have resulted
    b. report the condition in which the patients were found (e.g., under the influence of alcohol or other drugs)
    c. report evidence which leads you to believe that a child abuse incident has occurred

F. The child as a bystander
1. Same causes affect the behavior of the child bystander as affect the child patient
    a. insecurity
    b. separation from parents
    c. cannot understand what is seen
    d. unaccustomed to seeing suffering
    e. dislike for strangers
    f. inability to communicate effectively
2. The child bystander may become a patient if his/her emotional state results in a hypovolemic condition (shock)
3. If the child is not injured, it may be best to remove him/her from the area
    a. observation of grotesque injuries at the scene of any accident may leave long-lasting emotional scars on any child

LECTURE TOPICS

REFERENCES

- b. movement from injured patient or family members may aggravate the problem or help - based on the situation the rescuer must choose the best course of action

B. Consent for treatment

1. If the patient is under 18 years old (a minor) and a parent is present, that parent should consent to treatment and transportation
2. If the patient is a minor and under any situation needs emergency medical care, the obligation of the rescuer is to make every attempt to deliver the care which he/she has been trained to give
3. Implied consent operates as it does with adults

IV. General Rules for Management of Child Patients

A. Be calm and understanding of the apprehensions of the child and the parents

B. Be gentle since the child is generally very sensitive to pain

C. Use language and a vocabulary that the child will understand

D. Use parents during treatment and transport to calm and comfort the child as much as possible

LECTURE TOPICS	REFERENCES
(e.g., if the child is three years old and only has a fractured radius, the child may be best transported in his/her mother's arms rather than on the ambulance cot) E. Do not become emotionally involved to such a point that your effectiveness is impaired.	

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

TRANSPARENCIES

INTRODUCTION

THE LESSON AS OUTLINED USES THE FOLLOWING TRANSPARENCIES:

1. SOME CAUSES OF ABNORMAL BEHAVIOR
2. TYPES OF DRUGS
3. CHANGES IN BEHAVIOR
4. ALCOHOL WITHDRAWAL: STAGE I
5. ALCOHOL WITHDRAWAL: STAGE II
6. ALCOHOL WITHDRAWAL: STAGE III
7. ALCOHOL WITHDRAWAL: STAGE IV
8. DRUG----TREATMENT
9. CAUSES OF FEAR AND APPREHENSION IN CHILD PATIENTS
10. CHILD ABUSE REPORTING
11. GENERAL RULES FOR THE MANAGEMENT OF CHILD PATIENTS

NOTE: THESE TRANSPARENCIES CAN ALSO BE USED AS HANDOUTS, I.E., DISTRIBUTED TO THE STUDENTS AS INSTRUCTIONAL AIDS.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

TRANSPARENCY/HANDOUT # 1

SOME CAUSES OF ABNORMAL BEHAVIOR

1. ALCOHOL
2. DRUGS
3. EPILEPSY
4. DIABETES
5. HEAD INJURIES
6. HARDENING OF ARTERIES
7. HIGH BLOOD PRESSURE
8. SEVERE INFECTION

TRANSPARENCY/HANDOUT # 2

TYPES OF DRUGS:

1. BARBITURATES
2. ANTIANXIETY
3. STIMULANTS
4. MARIJUANA
5. HALLUCINOGENICS
6. NARCOTICS
7. VOLATILE CHEMICALS (INHALED)
8. ALCOHOL

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TRANSPARENCY/HANDOUT # 3

CHANGES IN BEHAVIOR:

TWO KINDS OF BEHAVIOR ASSOCIATED WITH DRUGS;

1. CHANGES WHICH ARE CAUSED BY THE DRUG
2. CHANGES WHICH OCCUR WHEN WITHDRAWING FROM THE USE OF THE DRUG

FOR EXAMPLE:

STIMULANTS (E.G., AMPHETAMINES)

A. USE OF MAY CAUSE FOLLOWING CHANGES:
   (1) RESTLESSNESS
   (2) FAST HEART BEAT
   (3) STOMACH IRRITATION
   (4) DELUSIONS
   (5) ANTI-SOCIAL BEHAVIOR

B. WITHDRAWAL MAY CAUSE
   (1) STATE OF DEPRESSION

TRANSPARENCY/HANDOUT # 4

ALCOHOL WITHDRAWAL:

STAGE I

PSYCHOMOTOR AGITATION
HYPERACTIVITY
ACUTE ANXIETY
HORIZONTAL NYSTAGMUS
SHORT ATTENTION SPAN

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TRANSPARENCY/HANDOUT # 5

ALCOHOL WITHDRAWL:

STAGE II

HALLUCINATIONS(AUDITORY,
TACTILE, VISUAL, OR ANY
COMBINATION)

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

TRANSPARENCY/HANDOUT # 6

ALCOHOL WITHDRAWAL:

STAGE III

DELUSIONS (USUALLY NOT RELATED TO HALLUCINATIONS)

TRANSPARENCY/HANDOUT # 7

ALCOHOL WITHDRAWAL:

STAGE IV

- SEIZURE

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

TRANSPARENCY/HANDOUT # 8

DRUG---TREATMENT:

1. INDUCE VOMITING IF PATIENT CONSCIOUS
2. MONITOR PATIENT'S VITAL SIGNS
3. WHEN RESPIRATIONS IS POOR, ADMINISTER OXYGEN
4. TAKE DRUG TO HOSPITAL WITH PATIENT

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

TRANSPARENCY/HANDOUT # 9

CAUSES OF FEAR AND APPREHENSION IN CHILD PATIENT:

1. INSECURITY IN A STRANGE SITUATION
2. SEPARATION FROM PARENTS AND/OR OTHER FAMILY MEMBERS
3. CANNOT UNDERSTAND WHAT IS SEEN
4. UNACCUSTOMED TO SEEING SUFFERING
5. OWN PAIN WHICH MAY NOT BE UNDERSTOOD
6. DISLIKE FOR STRANGERS
7. INABILITY TO COMMUNICATE EFFECTIVELY

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

TRANSPARENCY/HANDOUT # 10

CHILD ABUSE REPORTING:

1. REPORT INJURIES INFLICTED ON CHILD
2. REPORT CONDITION IN WHICH PARENTS WERE FOUND
3. REPORT ANY EVIDENCE WHICH MAKES YOU BELIEVE A CHILD ABUSE SITUATION OCCURRED
4. WEST VIRGINIA CHILD ABUSE PHONE #

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

TRANSPARENCY/HANDOUT # 11

GENERAL RULES FOR THE MANAGEMENT OF CHILD PATIENTS:

1. BE CALM AND UNDERSTANDING
2. BE GENTLE
3. USE SIMPLE LANGUAGE THAT CAN BE UNDERSTOOD BY THE CHILD
4. USE PARENTS DURING TREATMENT AND TRANSPORTATION
5. DO NOT BECOME TOO EMOTIONALLY INVOLVED

DEMONSTRATION: RESTRAINING A COMBATIVE PATIENT

Using a student as a patient, demonstrate the following:

1. Steps before restraining:
   - A. Collect information from bystanders
     - (1) Patient's history
     - (2) Previous problems
     - (3) Immediate problem
     - (4) Contact of Bureau of Mental Retardation
   - B. Talk to patient to calm him/her down
     - (1) Use any available method
     - (2) Reserve force
   - C. Determine if patient is suicidal or homicidal by his/her behavior
     - (1) If dangerous, try to change behavior
     - (2) If dangerous, try to remove element of problem

2. If combative, use force.

3. Place stretcher in lowest position.

4. Place patient face down (restrain with force).

5. Apply wrist and ankle restraints.
   - A. Clove hitch around each extremity
   - B. Different restraints for each extremity
   - C. Leave 18 inches exposed

6. Tie wrist restraints together.
   - A. Behind patient's back (prone)
   - B. Or in front of patient (supine)
   - C. Depends upon way patient is to be transported

7. Lift patient to stretcher; place in position to be transported.

8. Secure patient to stretcher by placing (prone)
   - A. Chest strap across patient's back below shoulders, under armpits, around stretcher frame, over biceps, and connect buckle in middle of back
   - B. Abdominal strap across small of patient's back
   - C. Third strap below knees
   - D. Secure extremities restraints to stretcher frame

DEMONSTRATION: RESTRAINING A COMBATIVE PATIENT (Continued):

or if supine position

A. Across chest under armpits, around stretcher frame, over biceps, and connect buckle over sternum
B. Across abdomen
C. Just above knees
D. Tie tails of extremity restraints to opposite frame of stretcher

NOTE: Only secure restraints and straps snugly -- not to interfere with normal functions.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

PRACTICE SESSION

INTRODUCTION

During the lecture or as a separate session have an open discussion with the students concerning two problems they might encounter in the field. First, present the following problem:

> A female, age 20, was in an automobile accident where she suffered a minor laceration to the forehead. She has been treated for this injury. During treatment she has repeatedly asked, "How is my father? Take care of him. I'll be okay." Her father was in the automobile with her and was obviously dead upon your arrival at the scene.

Now, ask the students the following questions:

1. Knowing that her father was dead, what would you say to the female when she asks, "How is my father?" while you are treating her?

   Accept all responses but ask, "What effect would this have on the girl?" and recall that all responses should be honest; don't lie to the girl.

2. Suppose the female locates her father's body and becomes hysterical. What would you do?

   Accept all responses; e.g.,

   - Try to calm her down
   - Remove her from scene
   - Treat for shock, if appropriate

NOTE: The purpose of this exercise is not to determine the correctness of the students' responses but rather to get them to think about what they would say and do in such a situation and to think about the consequences of their words and actions. This exercise should last no longer than 5 to 7 minutes; give students who want to discuss the issue enough time, however, to do so.

Next, present the following situation:

> A 38-year old man is standing on a roof of an apartment building threatening to jump. You are called to the scene and arrive before the police and other representatives of any agency. There are several bystanders and the wife of the man at the scene.

Now, ask the students the following question:

1. What is the first thing you would do?

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Acceptable response: Collect information from bystanders and wife, such as,

A. Patient's history
B. Previous problems of this nature
C. Prior mental health care
D. Any ideas concerning immediate care
E. Contact of MHMR

2. Suppose it is determined that the male had a fight with his wife about spending money. Would you ask the wife to help you calm down the man?

Acceptable response: No -- why she seems to be the object of the problem; it is best to remove her from the scene.

3. In an effort to calm the patient, what would you say to him?

Acceptable response: There are various approaches that might be used -- discuss the implications of each approach as the students bring them up. Note: The correctness of the response is not as important as forcing the students to really think about what they might say, as well as the possible consequences of their words on the patient.

NOTE: This second discussion should last no longer than 5 to 7 minutes, but give each student a chance to express an opinion.

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Student's Name____________________________

Passed____________________Failed__________

______________Face Down

______________Supine

SKILL EVALUATION: RESTRAINING COMBATIVE PATIENT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

Given the following (cravats, a multi-level stretcher or a portable stretcher, restraining straps and a student posing as a combative patient) have the student perform the following:

_____A. Uses reasonable force to restrain the patient.

_____B. Places stretcher in lowest position.

_____C. Places patient in face down position beside the stretcher, using minimum force to restrain him/her.

_____D. Determines if patient to be transported in face down or supine position.

Instructor says, "Patient is to be transported in ____________ position."

_____E. Restrains extremities (wrists and ankles)

1. Clove hitch around each extremity
2. Leave 18 inches or so

_____F. Ties wrist restraints together

1. (If face down) small of patient's back
2. (If supine) in front of patient

_____G. Lifts patient to stretcher in position to be transported

_____H. Secures patient to stretcher by using straps

If face down

1. across patient's back below shoulders, under armpits, around stretcher frame, over biceps, and connect buckle in middle of back
2. across small of patient's back
3. below knees

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If face up

1. across patient's chest, under armpits, around stretcher frame, over biceps, and connect buckle over sternum
2. across patient's abdomen
3. just above knees

_____I. Secures extremity restraints; if face up, ties the remaining 18 inches to stretcher frame; if face down, ties 18 inches remaining to opposite sides of stretcher.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

TASK I

ELEMENTS	EXPLANATION
	Assumes that the patient's primary problem is emotional and that the patient does not want to be transported or admitted anywhere. Also assumes that the ambulance is equipped with cravats and restraint straps 9' long.
1. Upon arriving at the scene, the rescuer should attempt to gather information from family members, neighbors, or bystanders to include: A. patient's history B. previous problems of this nature C. prior mental health care received D. any ideas concerning the immediate cause of this situation E. if anyone has contacted either the Bureau of Mental Health and Mental Retardation (MHMR) or a law enforcement agency, and F. if the patient may be potentially dangerous to the rescuer	Direct questioning may not be the best method of gathering the necessary information and, in this situation, the rescuer must use the most tactful methods available. Patient history information will give the rescuer information which may help determine if the patient's abnormal behavior is caused by a psychological or physiological disorder. If the immediate cause can be determined, it may be eliminated, or the patient may be moved to an area away from the cause of his or her emotional disturbance (e.g., a violent automobile accident). If the patient does not wish to be transported or committed to a mental health care facility, the MHMR must be contacted by either someone already at the scene or by the rescuer. (See Note #1.)
2. If possible, try to calm the patient by talking and reassuring the patient that no one is going to harm him/her. Several techniques may be used to calm the patient: A. supportive statements B. authoritarian attitudes C. reactive techniques D. passive techniques E. aggressive techniques Regardless of the method employed, the rescuer should never lie to a patient, and if the patient's condition worsens, the rescuer may need to switch from one technique to another until the best method of handling the patient is discovered.	The patient may not wish to talk to anyone or may require a great deal of attention and conversation. The rescuer must react as the patient's emotional needs dictate, and the rescuer must be "professional" in every respect. The patient may attempt to attack the rescuer's own emotional vulnerabilities in an attempt to distract the attention of those nearby and focus that attention upon the now vulnerable rescuer. The rescuer should not allow the patient to "get to" the rescuer's own vulnerabilities since any emotion shown by the rescuer will be interpreted as a successful attack by the patient, and the ability of the rescuer to deal with the patient may be lost. (See Note #2.)

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

TASK I (CONTINUED)

ELEMENTS	EXPLANATION
3. During the initial conversation with the patient and those nearby, the rescuer must determine if the patient may be dangerous to himself or herself (suicidal) or anyone else (e.g., family, bystanders, or rescuer). The rescuer must listen and look for any evidence that the patient has attempted or will attempt a suicidal or homicidal act. (If the patient is homicidal or suicidal, go to LOOP 1.)	Information which may indicate that the patient is potentially dangerous may be very obvious (e.g., verbal threats, violent actions, empty pill bottles), or it may be difficult to determine (e.g., stated depression, feelings of frustration or anger). If there is any immediate danger, the rescuer must be alert to avoid any personal injury, injury to the patient, or injury to others in the area.
4. While talking to the patient, determine if there is anything or anyone in the patient's immediate area that may be causing or affecting the patient's emotional state. This must be done by observation and not by direct questioning since the causative factor in the patient's emotional condition is usually denied and/or unrecognized by the patient. (If nothing is contributing to the emotional problem, go to Task Element #6.)	The rescuer must listen and look for clues to the elements that are affecting the patient's immediate emotional state, and this observation must be done in such a way that the patient does not become more emotionally unstable. Any direct confrontation of the patient with the situation or individual that is affecting his/her emotional state will usually compound the problem. (See Note #3.)
5. Determine if it is possible to eliminate the element(s) that is affecting the patient's emotional state by either: A. Removing that element from the area (e.g., asking a relative to go to another room); or B. Remove the patient from the area of that element (e.g., move the emotionally disturbed away from the scene of a violent accident) (If neither is possible, go to Task Element #6.)	If the cause is another individual, it must be rapidly determined if there is any way possible to remove that person from the area (by convincing that person to leave or by requiring that person to leave). If the patient is emotionally disturbed by another type of stimulus (e.g., a violent accident scene or the death of a family member), it may be necessary to move that emotionally disturbed patient to another area--away from the offensive stimulus.
6. Based on the decision of the best way to eliminate the element(s) affecting the patient's emotional state, immediately perform the necessary steps while using caution	If the rescuer believes that anything is affecting the patient's emotional condition, the rescuer must act quickly to eliminate the cause as rapidly as possible. Once this cause is eliminated,

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TASK I (CONTINUED)

ELEMENTS	EXPLANATION
not to further aggravate the patient's condition.	the situation can be more easily controlled by the rescuer.
(If the patient becomes homicidal, go to LOOP 1.) (If the patient becomes suicidal, go to LOOP 2.)	Any actions taken may compound the difficulties of the patient, so the rescuer must carefully observe the patient for any behavior changes. (See Note #4.)
7. Ask the patient to get on the stretcher. (If the patient refuses and becomes violent, go to LOOP 1.)	Assumes the patient can walk. During the process of asking a patient to get on the stretcher, that patient may ask questions which will require a great deal of tact in response to those questions. Under no condition should the rescuer deliberately lie to any patient; and it is even more critical in the case of any emotionally disturbed patient, since there is a strong possibility that this type of patient does not trust anyone at this point. The patient will eventually discover that the rescuer lied about such things as his/her destination and may become extremely violent. If the rescuer does anything to destroy the patient's confidence and trust in others, the patient's recovery and rehabilitation will become more difficult.
8. Upon delivering the emotionally disturbed patient to his/her destination, the rescuer should provide information to someone who will be involved in the long-term care of that patient (e.g., the attending psychiatrist or psychiatric nurse). That information should include: A. Any patient history obtained B. The patient's behavior prior to rescuer's arrival C. Any changes in the patient's behavior D. Any possible causes for the behavior change resulting in the commitment of the patient	This information must be given to an individual who is capable of recording it and incorporating that information in the long-term care of the patient. Any information of this type should be presented objectively and should not be discussed in the presence of family members or "interested" bystanders. In this situation, the rescuer can provide valuable information that no one else may be able to report concerning initial behavior patterns of an emotionally disturbed patient.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

LOOP 1

Homicidal or Suicidal Behavior

ELEMENTS	EXPLANATION
	Assumes that the emotionally disturbed patient is either actively attempting to take his/her own life or the life of another person and that the rescuer's life is not in immediate danger.
1. Talk to the patient in an attempt to change the patient's behavior and eliminate the immediate danger by assessing the patient's problem and observing what type of conversation tends to change suicidal or homicidal behavior. (If behavior is changed, go to Task Element #6.)	A stranger (i.e., rescuer) may be the only stimulation necessary to change the behavior of a potential suicidal or homicidal patient since there is a high probability that the individual rescuer has had nothing to do with the history of the development of the patient's condition. (See Note #5.)
2. Determine if another element in the patient's environment is affecting his/her emotional state and, if possible, remove that element from the area of the patient (e.g., relative).	See Task Elements #4 and #5 and the accompanying explanations.
3. Determine if the patient presents a potential danger to either himself/herself or anyone in the area by evaluating the patient's behavior for: A. Verbal threats B. Violent actions C. Strength of patient (If the patient is potentially dangerous, go to LOOP #2. If the patient presents no immediate danger, go to Task Element #4.)	Many emotionally disturbed patients make threatening statements and act in violent ways. The rescuer must be able to judge the relative danger and seriousness of the patient's actions. The assessment of the patient's potential strength under emotional stress must be accurate, since the restraining force to be used must only be that which is necessary to protect the patient and/or others. The use of excessive force infringes on the rights of the patient.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

LOOP 2

Restraint Procedures

ELEMENTS	EXPLANATION
	Assumes the patient requires restraints to assure personal safety and the safety of those nearby.
1. Place wheeled stretcher in lowest position possible and lower the side rail of the stretcher from which the patient will approach the cot. (If patient can be carried to cot without restraints, go to LOOP 2, Element #3.)	The stretcher is most stable in this position, and the rescuer may use his or her weight to the greatest advantage in this situation.
2. Position patient face down on floor with only sufficient force to restrain movement.	This is an extreme maneuver to be used in a situation in which all other methods of applying restraints should never be employed, and the rescuer has a moral obligation to use only the force necessary to protect the patient and others in the area. (See Note #6.)
3. Apply wrist and ankle restraints while holding patient in a prone position (face down) by placing a clove hitch knot around each extremity and using a different restraint for each knot. The tails of the restraint must be no shorter than eighteen inches long. (If patient is already on the stretcher, go to LOOP 2, Element #6.)	By placing the patient face down, he/she becomes more manageable by the rescuer. The restraints used should not damage the skin surface nor should they be so tight that they cause bruises. Once the clove hitch is tied, there should be enough restraint remaining to secure each extremity to the appropriate place.
4. Tie the wrist restraints together (behind patient's back if patient is to be transported in a prone position or in front of patient if patient is to be transported in a supine position).	This will prevent the patient from trying to loosen the restraints when they are secured to the frame of the cot.
5. Lift patient to the stretcher and place him/her on the stretcher in the proper position (prone or supine). (If patient is in supine position, go to LOOP 2, Element #7)	Great care should be exercised in this movement since the rescuer is most vulnerable at this time to quick movement by the patient.

EMERGENCY CARE OF THE EMOTIONALLY DISTURBED

LOOP 2 (CONTINUED)

Restraint Procedures

ELEMENTS	EXPLANATION
6. Secure patient to stretcher by placing: A. abdominal strap fastened across the back just below the shoulders B. Abdominal strap fastened across small of patient's back C. The third strap just below the knees The wrist and ankle restraints should be secured to the stretcher frame to prevent movement. (Go to Task Element #7.)	The straps should be secured snugly and in such a manner that they do not interfere with the normal function of a multi-level cot.
7. If the patient is in a supine position, place at least three straps on the patient in the following positions: A. Across the chest at the middle of the sternum B. Across the abdomen C. Just above the knees Tie the tails of the restraints in each hand to the opposite tubular frame of the stretcher and secure the ankle restraints to the stretcher frame. (Go to Task Element #7.)	

MODULE XI

OBSTETRICS AND PEDIATRIC EMERGENCIES

OBSTETRICS AND PEDIATRIC EMERGENCIES

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the student will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80 percent of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a description of each of the following:

    A. Fetus
    B. Umbilical cord
    C. Placenta
    D. Uterus
    E. Amniotic sac
    F. Amniotic fluid
    G. Cervix
    H. Vagina
    I. Perineum
    J. Labor
    K. Crowning

    the student will be able to recognize the label associated with each description from a list of labels.

2. Given descriptions of pregnant patients in labor and a list of signs obtained from a secondary survey of that patient, the student will be able to correctly identify those situations which indicate imminent delivery.

3. Given a list of occurrences which take place during a normal delivery, the student will be able to identify the stage of labor (Stage I, II or III) which includes the occurrence.

4. Given a list of reasons, the student will be able to recognize the reason which is most appropriate to describe the purpose of a secondary survey of a pregnant patient.

5. Given a series of outcomes from a secondary survey, the student will be able to identify those situations where:

    A. The patient should be transported.
    B. The patient should not be transported since imminent birth is possible.

6. Given a list of procedural steps, the student will be able to identify and sequence those steps which are necessary to prepare a pregnant patient for delivery.

7. Given a list of procedural steps, the student will be able to identify and sequence those steps which should be performed in each of the following deliveries:

OBSTETRICS - KNOWLEDGE OBJECTIVES (continued)

A. Cephalic
B. Breech
C. Premature infant
D. Multiple infants
E. Arm or leg presentation
F. Abortion
G. Stillborn
H. Prolonged delivery
I. Excessive bleeding
J. Unbroken amniotic sac
K. Non-breathing infant

8. Given a list of reasons, the student will be able to identify the major reason why the placenta is transported to the hospital.

9. Given a series of situations and the steps performed in each, the student will be able to identify those steps which are critical errors in the delivery of a baby.

10. Given a list of treatments, the student will be able to identify the steps in controlling bleeding for a child.

11. Given a list of systolic blood pressures, the student will be able to recognize the measurements needed to identify hypovolemic shock.

12. Given a list of treatments, the student will be able to identify simple procedures to follow in lowering an elevated temperature of a child enroute to the hospital.

13. The student will be able to identify the steps in the proper care of a convulsing child.

OBSTETRICS

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the student will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given an obstetrical manikin, the student will be able to demonstrate, in the proper sequence, the steps necessary for the secondary survey of a pregnant patient.

2. Given an obstetrical manikin, the student will be able to demonstrate, in the proper sequence, the steps necessary to prepare a patient for delivery.

3. Given an obstetrical manikin, the student will be able to demonstrate the proper sequence of steps necessary to manage the birth of a baby. Successful performance includes the management of:

    A. Cephalic birth
    B. Breech birth
    C. Prolapsed umbilical cord
    D. Arm or leg presentation

4. Review - Given an infant manikin, the student will be able to correctly perform cardiopulmonary resuscitation on the infant manikin.

OBSTETRICS AND PEDIATRIC EMERGENCIES

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the students' attainment of the specified objectives, the instructor will be responsible to:

1. Distribute the student activity sheet and handouts during the class period prior to beginning this module. Assignments are:

    A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 391 to 415.

    B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 167-185

2. This module is planned for 6 hours. The lecture will involve the use of slides, filmstrips, and 16 mm film. The content of the lecture is specified in the Module Outline.

    A. Slides are from the Emergency Care Series, Robert J. Brady Company, Unit 9.

    B. Film: 16 mm Emergency Childbirth.

    C. References:

        (1) Emergency Care and Transportation of the Sick and Injured, by the committee on Injuries (American Academy of Orthopaedic Surgeons), (1977). 2nd Edition. Pages: 259-2828

        (2) Advanced First Aid and Emergency Care, by the American National Red Cross, (1973). Pages : 247-253

        (3) Basic Emergency Medicine, by Robert H. Miller and James R. Cantrell, C. V. Mosby Company, (1975). Pages: 185-189, 133-144.

        (4) Basic Life Support, by Charles Phillips, M.D., (1977). Pages: 127-132.

        (5) Emergency Childbirth, U.S. Department of Defense and U.S. Department of Health, Education, and Welfare. (pamphlet) U.S. Government Printing Office: 1970 0-411-132.

        (6) Shock in the Pediatric Patient, by John G. Raffensperger, M.D., Emergency Product News. August, 1977. Pages: 46-49

        (7) Pediatric Management of the Limping Child, by Willis A. Wingert, M.D., Emergency Medical Service. September/October, 1978.

    D. Alternative Learning Resources:

        (1) Filmstrips: Emergency Medical Care Series, by Trainex.
            (a) Emergency Childbirth, Program No. 35.

(2) Filmstrip: Basic Skills for the EMT, Unit 17.
    (a) Childbirth, by Emergency Training, Inc.

3. Prepare notes and conduct the demonstration session. The demonstrations consist of:

   A. Procedures for conduct of a secondary survey of a pregnant patient, preparation for and management of a normal delivery
   B. Procedures for resuscitation of non-breathing infant
   C. Procedures for management of an abnormal delivery or a delivery involving complications.

4. Monitor the students while they practice the demonstrated skills. The instructor will be available during the practice session to answer any questions the students may have and/or correct any incorrect performance found.

5. After the practice session and lecture, the instructor will evaluate the student's ability to perform each of the three skills. The student's skills can be evaluated separately or collectively. In addition, each student will be required to take a written examination. After completing the evaluations, the instructor will advise the student on his/her progress and suggest Alternative Learning Resources, if appropriate.

OBSTETRICS AND PEDIATRIC EMERGENCIES

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and Chalkboard
Slide Projector
16 mm Movie Projector
Screen
Filmstrip/cassette machine

Medical

Obstetric Manikin
Adult Manikin
Infant Manikin
Infant Obstetric Manikin
Alcohol Swabs
Disposable Obstetrical Kit
Jump Kit with Equipment
Blankets

HANDOUTS

Skill Development Checklist
Task Sheet
Skill and Knowledge Objectives
Skill Evaluation Sheets
Written Examination

AUDIOVISUALS

Slides: Emergency Care Series, Unit 9
Film: 16 mm, Emergency Childbirth
Filmstrip: Emergency Medical Care Series, Program No. 351
Basic Skills for the EMT, Unit 17

OBSTETRICS AND PEDIATRIC EMERGENCIES

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this module.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 391-415.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 167-185.

3. Student Skill Development Checklist for Obstetrics and Pediatric Emergencies. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

4. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

5. Alternative Learning Resources

   A. Filmstrips:
      (1) Emergency Childbirth, by Trainex, Program No. 351.
      (2) Childbirth, by Emergency Training, Inc., Unit 17.

6. Student Skill Development Checklist begins on next page.

OBSTETRICS

7. Before leaving this module, the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTOR'S INITIAL
Performance Skills:			
A. Verbally, demonstrate: secondary survey of pregnant patient			
B. Review: Infant CPR			
C. Caphalic birth			
D. Breech birth			
E. Prolapsed umbilical cord			
F. Extremity Presentation			

OBSTETRIC AND PEDIATRIC EMERGENCIES

LECTURE TOPICS	REFERENCES
I. Anatomy of a Pregnancy	REVIEW of female anatomy from Module IV: SOFT TISSUE INJURIES, HANDOUT # 7
A. Fetus	
B. Umbilical Cord	
C. Placenta	
D. Uterus	
E. Amniotic Sac	
F. Amniotic Fluid	
G. Cervix	
H. Vagina	
I. Perineum	
II. Labor	
A. Definition of Labor	
B. Stages of Labor	
1. First uterine contraction to dilation of cervix	
2. Birth to delivery of placenta	
3. Delivery of placenta	
III. Survey of a Pregnant Patient	
A. Purpose - to determine if there is sufficient time for transport	
B. Procedure	
1. First baby?	
2. Length of labor?	
3. Need to strain?	
4. Feeling of bowel movement	
5. Crowning	
C. Decision on whether to transport	

OBSTETRIC AND PEDIATRIC EMERGENCIES

LECTURE TOPICS	REFERENCES
IV. Prepare Mother for Delivery	
A. Purpose - to create a sterile environment	
B. Equipment	
C. Procedure	Elements 3-10
1. Place patient on sheet on bed	
2. Drape patient	
3. Place towels around vagina	
4. Locate father or other EMT at patient's head	
V. Delivery	
A. Examination for Presenting Part	
B. Procedure	Elements 12-26
1. Birth is a natural function	
2. EMT assists mother and baby	
3. Support head	
4. Turn head for shoulder delivery	
5. Placement of baby after the birth	
VI. Management of Newborn	
A. Airway Maintenance	Elements 17, 24, 25, 26
B. Cutting the Cord	Elements 28-30, 32
C. Wrap and Place Baby	Element 31
VII. Management of Placenta	
A. Reason to Transport Placenta	
B. Prolonged Placenta Delivery	
VIII. Management of the Mother	

OBSTETRIC AND PEDIATRIC EMERGENCIES

LECTURE TOPICS	REFERENCES
A. Clean Area Around Birth Canal	Element 34
B. Apply Sanitary Napkin	Element 35
C. Position Mother	Element 36
D. Change Sheets	Element 37
IX. Prepare for Transport	
A. Move Mother and Child to Stretcher	
B. Need to Keep Warm	
X. Show Emergency Childbirth Film	
DEMONSTRATION #1	
XI. Complications	
A. Unbroken Amniotic Sac	LOOP 5
1. Why this is a problem	
2. Opening the sac	
3. Maintenance of the airway	
B. Nonbreathing Infant	LOOP 6
1. Primary survey	
2. Stimulation of breathing	
3. Mouth-to-mouth	
4. CPR	
DEMONSTRATION #2	
C. Premature Baby	
1. Definition of premature	
2. Consideration	
a. warmth	

OBSTETRIC AND PEDIATRIC EMERGENCIES

LECTURE TOPICS	REFERENCES
b. airway maintenance	
c. prevent bleeding	
d. administer oxygen	
e. need for sterile environment	
D. Multiple Births	
1. Determination of multiple births	
2. Multiple vs single placenta	
3. Do not cut cord until all babies are delivered	
4. Special care of multiple infants	
E. Abortion	
1. Definition of abortion	
2. Danger of excessive bleeding	
3. Care of the patient	
F. Stillborn Infant	LOOP 6
1. Attempt resuscitation	
2. Special care in handling the mother and father	
G. Prolonged Delivery	LOOP 4
H. Excessive Bleeding	LOOP 7
1. Treatment for shock	
2. Massage uterus	
XII. Abnormal Deliveries	
A. Breech Delivery	LOOP 1
1. Identification of breech delivery	
2. Maintenance of airway during delivery	
3. Prolonged delivery	

OBSTETRIC AND PEDIATRIC EMERGENCIES

LECTURE TOPICS	REFERENCES
B. Arm or Leg Presentation	LOOP 2
1. Identification	
2. Problems	
3. Need for immediate transport	
DEMONSTRATION #3	
XIII. Pediatrics	
A. Basic Life Support	
1. CPR	Review
B. Treatment of Shock	
1. Control of bleeding	
2. Blood pressure measurement	
C. Medical Problems	
1. Fever	
2. Convulsions	
3. Upper airway diseases	
a. laryngotracheal bronchitis	
b. spasmodic croup	
c. epiglottitis	
4. Intussusception	
D. Injuries Common to Children	
1. Fish hooks	
2. Rings stuck	
3. Bike fork injuries	
4. Soft Tissue	Review Module IV
E. Sudden Infant Death Syndrome (SIDS)	
1. Professional attitude	
2. Emotional Support to family	

OBSTETRIC AND PEDIATRIC EMERGENCIES

LECTURE TOPICS	REFERENCES
F. Battered Child 1. Legal responsibilities	
G. Sexually Assulted Child 1. Do's and Don'ts	

OBSTETRICS

DEMONSTRATION #1: MANAGEMENT OF NORMAL DELIVERY

Using an obstetrical manikin, infant obstetrical manikin, and an assistant to manipulate the infant manikin in the birth canal, demonstrate the following skill:

1. Perform secondary survey of pregnant patient:

    A. Is this first baby?
    B. How long is labor?
    C. How close are contractions?
    D. Does it feel as if have to move bowels?
    E. Examine for crowning. Point out need to explain to husband and patient what is being done and why

2. Prepare patient for delivery by doing the following:

    A. Place patient on portable stretcher or bed
    B. Place husband at head of patient
    C. Assemble equipment; point out each piece of equipment required
    D. Place clean sheet under patient
    E. Position patient
    F. Drape patient
    G. Calm patient and instruct her to relax between contractions
    H. Dress in sterile gown and gloves

3. Observe for presenting part. Abnormal presentations will be covered in Demonstration #3.

4. Prepare for actual delivery. Point out:

    A. Placement of hands
    B. Prevention of explosive birth
    C. Support of head
    D. Free umbilical cord if wrapped around neck
    E. Need to aspirate infant
    F. Need for mother to relax
    G. Guide head down and up to free shoulders after head rotates
    H. Never force or pull. Delivery is normal function and rescuer is only an assistant
    I. Support shoulders and head during final phase of delivery

5. Position infant and aspirate.

6. Look, listen, and feel for respiration.

7. Clean baby.

8. Clamp umbilical cord and cut. Point out:

    A. Clamp after ceases pulsating
    B. Where to clamp and tie
    C. Where to cut cord
    D. If multiple birth expected or suspected, do not cut cord. Point out why

E. Place baby on side on mother's abdomen or chest
F. Check cord for bleeding and reclamp if necessary

9. Deliver placenta. Point out:

   A. If does not deliver in 20 minutes, take patient to hospital
   B. Need to wrap placenta and take to hospital

10. Care for mother:

   A. Clean area around birth canal
   B. Dress any tear in perineum
   C. Apply sanitary napkin. Do not pack vaginal canal
   D. Position mother with legs lowered and held together
   E. Clean area and replace blood soaked sheets

DEMONSTRATION #2: RESUSCITATION OF A NON-BREATHING INFANT

Using an infant manikin, demonstrate the following skills:

1. Look, listen, and feel for respirations.

2. If absent:

   A. Continue aspiration
   B. Tickle feet

3. If still absent:

   A. Establish airway
   B. Ventilate infant using mouth-to-mouth method. Use 4 small quick puffs
   C. Check pulse
   D. If pulse is absent, compress chest 1/2 to 3/4 inches using finger tips at a rate of 100 per minute
   E. Interpose ventilations after every 5 compressions or at a rate of 20 per minute

DEMONSTRATION #3: ABNORMAL DELIVERIES AND COMPLICATIONS WITH CHILDBIRTH

Using an obstetrical manikin, infant obstetrical manikin, and an assistant to manipulate the infant manikin in the birth canal, demonstrate the following skills: (only those complications which involve skills which can be demonstrated are covered)

Complications

I. Premature Infant:

   1. Need for warmth. Point out how to wrap baby.

   2. Need for special respiratory care. Point out administration of oxygen.

   3. Need for sterile environment.

   4. Need to prevent excessive bleeding.

DEMONSTRATION #3: (continued)

II. Excessive Bleeding of Mother:

1. Place sanitary napkin over vaginal opening.
2. Position mother with legs down and closed.
3. Place mother in shock position.
4. Massage uterus gently.
5. Treat for shock.

III. Unbroken Amniotic Sac

1. Discuss steps and need to assure airway

Abnormal Deliveries

I. Breech Delivery

1. Determine presenting part is buttocks.
2. Position hands.
3. Support legs and trunk.
4. Deliver arms. Point out:
   - A. Need to bring arms in place if above head
   - B. How to move arms down.
5. Deliver head
6. If head does not deliver in 2-3 minutes, point out:
   - A. Need to maintain airway
   - B. How to maintain airway
   - C. Administer oxygen to mother

II. Other Abnormal Deliveries

1. Arm or leg presentation; umbilical cord presentation:
   - A. Administer oxygen
   - B. If umbilical cord presentation, push infant back in birth canal and hold. Point out danger of this situation
   - C. Transport to hospital.

OBSTETRICS

PRACTICE SESSION #1

Divide class into three groups

Group I

Equipment

1. Disposable obstetrical kit
2. Obstetric manikin
3. Infant obstetrical manikin

Skill

1. Secondary survey of a pregnant patient to determine imminent birth
2. Preparation of patient and rescuer for delivery
3. Manage a(n)
   - A. Cephalic birth
   - B. Breech birth
   - C. Prolapsed umbilical cord
   - D. Arm or leg presentation

Group II

Equipment

1. Resusci-Baby
2. Alcohol swabs

Skill

1. Infant CPR

Group III

(This group can be divided into smaller groups to practice each of the types of skills)

Equipment

1. Appropriate equipment for each skill

Skill

1. Patient handling
2. Basic life support
3. Fractures
4. Soft tissue injuries
5. Central nervous system injuries

OBSTETRICS

PRACTICE SESSION FOR STUDENTS

After the lecture and demonstrations, students should be given the opportunity to practice their skills. The practice session can be conducted in one of several ways:

1. Students can be given the skill evaluation sheets as a job aid or to guide their practice, or they can use their notes taken during the lecture and demonstration. Students should be informed as to what materials and job aids they will be permitted to use.

2. If assistant instructors are available, they can be assigned to groups of students to ensure that the students understand the skill and procedures. If assistant instructors are used, the instructor should train and evaluate the assistant instructors on their ability to perform the required skills prior to the practical exercise.

3. Depending upon the number of students and available equipment, the students should be separated into small groups. Each group can be assigned a skill to practice covering all skill objectives, or all groups can practice the same skill at the same time.

4. Students in the group should be asked to help other students if assistant instructors are not available. Often times, students can communicate with other students in a more efficient manner than the instructor.

During the practice session, the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills. However, practice time should not exceed three hours.

2. Should assist any and all students during their practice to:

   A. Correct any incorrect procedures, point out errors
   B. Provide "hints" on ways to recall the correct procedures; e.g., maintenance of infant airway

3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedures with them, repeating the demonstrations.

4. Should be careful not to occupy too much of the students' time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

OBSTETRICS - PRACTICE SESSION FOR STUDENTS (continued)

The students have the following responsibilities:

1. To practice skills until they feel comfortable with the procedures.
2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

Student's Name______________________

Passed________________Failed__________

SKILL EVALUATION #1 - MANAGEMENT OF A NORMAL DELIVERY

(Please check those elements which are done incorrectly, out of sequence or omitted.)

The student will demonstrate on an obstetrical manikin, the procedure for management of a normal delivery, to the satisfaction of the instructor:

_____A. Perform secondary survey of a pregnant patient.

- _____ Asks proper questions
- _____ Explains need to conduct examination
- _____ Conducts examination

_____B. Prepare patient for delivery

- _____ Place patient properly
- _____ Place husband properly
- _____ Assemble equipment
- _____ Place sheet under patient
- _____ Position patient
- _____ Drape patient
- _____ Calm patient
- _____ Dress for delivery

_____C. Delivery of infant

- _____ Hand placement
- _____ Support of head
- _____ Free umbilical cord
- _____ Aspirate infant
- _____ Deliver shoulders
- _____ Support shoulders and head during final delivery

SKILL EVALUATION #1 (continued)

_____D. Care of infant

- _____ Position infant
- _____ Look, listen, feel
- _____ Clean infant
- _____ Clamp cord and cut

_____E. Care of placenta

- _____ Deliver placenta
- _____ Wrap for transport to hospital

_____F. Care of mother

- _____ Clean birth canal area
- _____ Dress perineum if torn
- _____ Apply sanitary napkin
- _____ Position mother
- _____ Clean area

Student's Name__________________________

Passed_________________Failed___________

SKILL EVALUATION #2 - RESUSCITATION OF A NONBREATHING INFANT

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate on an infant manikin, the procedure for resuscitation of a nonbreathing infant to the satisfaction of the instructor.

_____A. Look, listen, feel.

_____B. Attempt to stimulate breathing.

_____C. Establish airway.

_____D. Ventilate infant.

_____E. Check pulse.

_____F. Begin compressions

  _____ Rate

  _____ Interposed ventilations

Student's Name ____________________

Passed ______________ Failed ________

SKILL EVALUATION #3 - ABNORMAL DELIVERIES AND COMPLICATIONS WITH CHILDBIRTH

(Please check those elements which are done incorrectly, out of sequence, or omitted.)

The student will demonstrate, on an obstetrical manikin, the procedure for management of an abnormal delivery.

_____ A. Premature infant
    _____ Wraps infant
    _____ Administer oxygen
_____ B. Excessive bleeding of mother
    _____ Apply sanitary napkin
    _____ Position mother
    _____ Treat for shock
    _____ Massage uterus
_____ C. Breech delivery
    _____ Recognize
    _____ Position hands
    _____ Deliver arms
    _____ Maintain airway
    _____ Administer oxygen to mother
    _____ Deliver head
_____ D. Arm or leg presentation
    _____ Recognize
    _____ Administer oxygen
_____ E. Umbilical cord presentation
    _____ Recognize
    _____ Push infant back into canal
    _____ Administer oxygen

OBSTETRICS

TASK I

SURVEY OF A PREGNANT PATIENT

ELEMENTS	EXPLANATION
	Assumes the patient is at some stage of childbirth. Further assumes that the following equipment is available: A. Towels B. Pan C. Receiving blanket D. Bulb syringe E. Plastic bag F. Sterile gloves G. Hemostats (umbilical clamps) H. Scissors, and, I. Sanitary napkins.
1. Determine if birth is imminent by asking: A. Is this the first baby? B. How long has she been in labor? C. How close are contractions? D. Does it feel as if she has to move her bowels?	
2. Determine if presenting part is visible by examining patient for crowning. (If birth is not imminent, go to Task Element #40.) (If birth is in progress, go to Task Element #11.)	If the patient is to be examined, it will be necessary to explain to both mother and father what is being done and why. Social modesty must always be considered.
3. Place patient on portable stretcher on bed.	By placing patient on portable stretcher initially, if any complications arise (leg presentation), the mother may move quickly and easily with stretcher in place.
4. Have husband or second rescuer sit at the head of mother to reassure and calm her. Provide basin in case patient feels ill.	Constantly reassure mother concerning imminent birth.
5. Assemble all equipment and supplies needed.	
6. Place clean sheet under patient's buttocks and drape patient's abdomen with a second sheet.	

OBSTETRICS

TASK I (CONTINUED)

SURVEY OF A PREGNANT PATIENT

ELEMENTS	EXPLANATION
7. Place patient's legs in "stirrup" position by raising knees and spreading legs to a wide but comfortable position.	
8. Drape sheets or sterile fields over patient's legs.	By doing this, an effort is being made to provide a sterile area for delivery of the newborn.
9. Calm patient and instruct her to relax and breathe deeply between contractions.	If the mother is not relaxed, the muscles will have more difficulty relaxing.
10. Put on sterile gown and gloves.	It is extremely important that the sterility of the gown and gloves are maintained. The gowns are usually folded such that the front section is protected and the wearer only needs to touch the back to put on the gown. The top of the gloves have been folded back such that the inside of the glove is clasped to put on the first glove. The second glove is put in place by sliding the first hand under the flap of the fold of the second glove and sliding in the hand. The first glove should never touch the inside of the second glove. Be sure to take all rings and watches off before putting on gown and gloves. Gloves should overlap cuff of gown when done.
11. Observe for presenting part. (If presenting part is buttocks, go to LOOP 1.) (If presenting part is an arm or leg, go to LOOP 2.) (If presenting part is umbilical cord, go to LOOP 3.) (If birth does not occur in twenty minutes, go to LOOP 4.)	Assumes presenting part is infant's head.
12. Place hand (palm up) with the fingers level and almost touching perineum.	Do not touch perineum to maintain sterility. If the rescuer is right-handed, left hand should be placed in this position.

OBSTETRICS

TASK I (CONTINUED)

SURVEY OF A PREGNANT PATIENT

ELEMENTS	EXPLANATION
13. Place the other hand at the opening of the birth canal (palm down) to prevent an explosive birth.	
14. Support the head as it delivers with the first hand. (If amniotic sac is still intact, go to LOOP 5)	Every effort should be made to insure that the infant does not contact any expolsed blood or fecal matter. Head is usually presented face down.
15. Once delivery of the head has occurred, determine if umbilical cord is wrapped around infant's neck.	
16. If cord is wrapped around neck, gently loosen cord with fingers of free hand.	Do not pinch or tear cord.
17. Begin aspiration with bulb syringe by squeezing bulb, inserting in baby's nostrils and mouth, releasing bulb, removing syringe, and then squeezing again. Continuously repeat this process.	Be sure only to expel air from the syringe when it is not in infant's mouth or nose.
18. Encourage mother to relax between contractions and not to strain.	
19. Wait for the head to rotate 90 degrees either to the right or left. Continue to support the head.	Do not try to assist rotation at all.
	Assumes head has rotated.
20. Gently guide head (use no force) downward to assist release of upper shoulder.	Upper shoulder usually delivers first. If lower shoulder appears to be delivering first, then reverse Element 20 and 21.
21. Gently guide head (use no force) upward to assist the release of lower shoulder.	
22. Carefully hold and support head and shoulders as infant delivers.	Once head and shoulders have delivered, the rest of the body will deliver rapidly. Be sure to support infant.

OBSTETRICS

TASK I (CONTINUED)

SURVEY OF A PREGNANT PATIENT

ELEMENTS	EXPLANATION
23. Once delivered, support baby's head and shoulders with one hand and body with the other hand. Position infant such that drainage may occur by placing head lower than the body with head tilted to the side.	The baby will be extremely slippery.
24. Continue aspiration.	It will be necessary to aspirate infant until arrival at the hospital.
25. Determine if baby is breathing spontaneously by looking, listening, and feeling. (If baby is not breathing, go to LOOP 6.)	
26. Wipe mucus and blood off baby and generally clean baby with sterile gauze.	
27. Determine if umbilical cord has ceased pulsating.	The umbilical cord should not be severed until all pulsations cease.
28. With umbilical clamp, hemostat, or sterile umbilical string, tie umbilical cord approximately ten inches from infant.	The cord should be severed approximately midway between the infant and the mother.
29. If multiple birth, place baby on its side on clean sheet and go to Task Element #11.	
30. Approximately 2" from first clamp. apply second clamp to secure umbilical cord.	
31. With sterile scissors, sever umbilical cord between the two clamps.	Be sure the ends of the umbilical cord do not drop into any of the waste matter which was expelled by the mother.
32. Place baby on its side on sterile sheet or blanket on mother's abdomen or chest. Position infant such that drainage is possible.	It is necessary to maintain the infant's body temperature. Do not stretch or tear umbilical cord because it may cause baby to hemorrhage.
33. Shortly after cutting umbilical cord, check ends of cord for any bleeding. If bleeding is present,	Do not attempt to tighten first clamp.

OBSTETRICS

TASK I (CONTINUED)

SURVEY OF A PREGNANT PATIENT

ELEMENTS	EXPLANATION
apply second clamp a short distance from first.	
34. Wait for delivery of placenta. Once placenta is delivered, it should be wrapped in a towel or plastic bag and taken to the hospital.	The placenta must be examined by the hospital staff for completeness. Do not wait for more than twenty minutes for delivery of placenta.
35. With sterile gauze, clean area around birth canal. (If bleeding persists, go to LOOP 7.)	In cleansing area, be sure to wipe away from vaginal opening so that none of the discharged matter is pushed into the vaginal opening.
36. Apply sanitary napkin to vaginal opening. Do not pack anything into vaginal canal. If the perineum has torn during the delivery, place sterile dressing over perineum.	
37. Lower mother's legs, and encourage her to hold them together.	This will retard bleeding.
38. Replace blood-soaked sheets with clean dry sheets.	This will make the mother more comfortable and make her less self-conscious upon her arrival at the hospital.
39. Determine if mother or baby is in life-threatening condition. (If yes, go to task "Transportation.")	
40. Have all patients been treated? (If no, then go to "Multi-Patient Triage")	
41. Prepare to transport. (Go to Transportation Task)	

OBSTETRICS

LOOP 1

Presenting Part - Buttocks

ELEMENTS	EXPLANATION
	Assumes that upon observation, the presenting part is the buttocks. (Breech birth)
1. Place hand (palm up) with the fingers level and almost touching the perineum.	Do not touch the perineum to maintain sterility. If the rescuer is right-handed, left hand should be placed in this position.
2. Support the legs and trunk as they deliver.	Every effort should be made to insure that the infant does not contact any expelled blood or fecal matter.
	Assumes the buttocks and legs have been delivered.
3. Determine if arms are to be delivered next. If arms do not appear to be delivering next, take index finger and reach into birth canal gently and bring each arm down.	Arms must be delivered before the head can be delivered.
4. Support body and wait for delivery of head. (If head delivers within three minutes, go to Task Element #23)	
5. If head does not deliver within three minutes, insert index and middle finger into birth canal to make an airway for the infant.	The infant's body will react to the atmosphere and attempt to breathe. It will be necessary to maintain an airway for the baby.
6. Do not pull on fetus, but await delivery.	
7. Administer oxygen to the mother. (If head does not deliver within three minutes, maintain infant's airway and transport to hospital as an emergency (see appropriate task.)) (If head delivers, go to Task Element #23.)	This will also supplement the oxygen flow going to the infant through the umbilical cord.

OBSTETRICS

LOOP 2

Presenting Part - Arm or Leg

ELEMENTS	EXPLANATION
	Assumes that the presenting part is an arm or a leg.
1. Administer oxygen to the mother. (See appropriate task)	
2. Reassure mother.	
3. Transport to hospital as an emergency.	In this case, there is very little the rescuer can do, but to calm the mother and get her to the hospital as quickly as possible. It is most likely that the baby will be delivered by surgical means.

OBSTETRICS

LOOP 3

Presenting Part - Umbilical Cord

ELEMENTS	EXPLANATION
	Assumes that the presenting part is the umbilical cord.
1. Prevent delivery by placing hand in birth canal and supporting fetus.	When supporting fetus, do not use finger tips on the top of the skull, but rather support head by placing the fingers around the skull.
2. Administer oxygen to the mother. (See appropriate task)	
3. Reassure mother.	
4. Transport to hospital as an emergency.	In this case, there is very little the rescuer can do but to calm the mother and get her to the hospital as quickly as possible. If the delivery proceeds, the umbilical cord may tear or be pinched, killing the fetus.

OBSTETRICS

LOOP 4

Prolonged Birth

ELEMENTS	EXPLANATION
	Assumes that the rescuer has expected the second stage of birth to occur but there have been no presenting parts for twenty minutes. Further assumes that contractions are between two and three minutes apart.
1. Reassure mother.	
2. Transport patient to hospital without delay. (Go to Task Element #40.)	Complications may be involved which the rescuer cannot deal with. It is therefore necessary to transport the mother as quickly as possible. Should delivery begin while enroute, the rescuer should stop the vehicle and prepare for delivery.

OBSTETRICS

LOOP 5

Amniotic Sac Still Intact Upon Delivery

ELEMENTS	EXPLANATION
	Assumes that upon delivery, the infant is still in the amniotic sac surrounded by the amniotic fluid.
1. Use sterile clamp or surgical scissors to remove the sac around the baby's face and head. (Go to Task Element #15.)	Be sure that once the head is delivered, the sac is perforated to allow for an airway for the infant.
	As the baby delivers, the sac will more than likely peel away from the infant. the rescuer can assist in this process.

OBSTETRICS

LOOP 6

Resuscitation of Newborn

ELEMENTS	EXPLANATION
	Assumes that the newborn has not begun spontaneous breathing within one minute after delivery.
1. Continue aspiration of the mucus.	It is essential that an open airway be provided for the infant.
2. Tickle the bottom of the infant's feet with the index finger.	This is a very sensitive area of the body on a newborn and may cause a spontaneous reaction.
3. If the baby does not begin respiration, begin mouth-to-mouth resuscitation. (See task "Airway Maintenance and Resuscitation.")	
4. If infant begins to breathe, go to Task Element #26	
5. Monitor pulse. (If no pulse is found, begin cardiopulmonary resuscitation. (See appropriate task)).	
6. If infant does not respond, continue resuscitation efforts and transport mother and infant to hospital as an emergency.	Infants have been successfully resuscitated after thirty minutes of effort.

OBSTETRICS

LOOP 7

Persistent Bleeding After Delivery

ELEMENTS	EXPLANATION
	Assumes that the bleeding from the mother is persistent and that the blood loss is greater than the normal one-half pint anticipated.
1. Place sanitary napkin over vaginal opening.	Do not pack anything in birth canal.
2. Have mother close and lower legs.	
3. Place mother in shock position with legs and feet slightly elevated.	
4. Locate uterus in the mother's lower abdomen.	The uterus will protrude in the lower abdomen in the area of the naval.
5. Massage the uterus gently, but do not push down on it. (Go to Task Element #38.)	Massaging the uterus causes the blood vessels to constrict.

MODULE XII

TRIAGE AND SPECIAL CARE SITUATIONS

TRIAGE AND SPECIAL CARE SITUATIONS

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the students will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80 percent of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a list of definitions, the student will be able to select the one which best defines "multi-patient triage."
2. Given a list of definitions, the student will be able to select the one which best defines "multi-problem triage."
3. Given a list of problems, the student will be able to recall whether the problem is a high, middle, or low priority with respect to priority of treatment.
4. Given a minimum of three (3) victims in a given situation, each with a specific injury (or injuries), the student will be able to select the victims for treatment according to the priority of their injury.
5. Given a list of problems, the student will be able to specifically identify if the victims have pre-lingual, post-lingual or elderly deafness.
6. Given a list of signs, the student should be able to select at least five signs of approaching death.

TRIAGE AND SPECIAL CARE SITUATIONS

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skills, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of notes, diagrams, charts, etc. Correctly will be defined by the instructor during the lecture and demonstration sessions. The student will be given no more than three attempts to successfully perform each of the required steps in the proper sequence. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given a number (not more than four) of patients with various injuries, the student will be able to triage the patients.

2. Given a patient with one or more simulated injuries (not more than three injuries), the student will be able to prioritize injuries and treat each injury.

3. Given a patient with one or more simulated injuries, the student will be able to communicate in sign language.

4. Given ambulatory patient that is blindfolded, the student should be able to verbally instruct patient down a group of steps.

5. Given a patient in a coma, a stretcher and list of signs/symptoms, the student will be able to position the patient correctly.

TRIAGE AND SPECIAL CARE SITUATIONS

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will be responsible to:

1. Distribute the student activity sheet and handouts during the class period prior to beginning this Module. Assignments are:

   A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 111-169.

   B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 49-59, 66-74, 83-85, 98-100, 108, 114-115, 119-120, 127-129, 133-134, 140-147, 153-154, 157, 165-166, 172-178.

2. This module is planned for 6 hours. The lecture will involve the use of slides and filmstrips. The content of the lecture is specified in the Module Outline.

   A. Slides are from the EMERGENCY CARE SERIES, Robert J. Brady Company, Unit 1 (slides 1 to 38).

   B. Filmstrips are from BASIC SKILLS FOR THE EMT, by Emergency Training Inc.

      (1) Primary and Secondary Survey and Triage, Unit 3.

   C. References:

      (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons,) (1977). 2nd Edition. Pages: 33,34,35
      (2) Basic Life Support Skills Manual, by Charles Phillips, M.D., Robert J. Brady Company, (1977). Pages: 1-8, 145-161
      (3) Triage, by Wayne Cowan, Emergency Product News, April 1976. Pages: 124-125
      (4) Vehicle Rescue, by Harvey Grant, Robert J. Brady Company, (1975). Pages: 86-201
      (5) Basic Emergency Medicine, by Robert H. Miller and James R. Cantrell. (1975). C.V. Mosby Company. Pages: 204-206; Triage 109-191; Suicide
      (6) Death, Society and Human Experience, by Robert J. Kastenbaum, (1977). C.V. Mosby Company, Chapter 1, The Individual in the Death System, Pages: 58-75. Chapter 15, Suicide, Pages: 266-297.
      (7) On Death and Dying, by Elisabeth Kubler-Ross, M.D. (1969). MacMillan Publishing Co., Inc. Patients Family Pages: 156-159.

3. Monitor the students while they practice triage skills. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

4. After the practice session and lecture, each student will be required to take a written examination. After completing the evaluation, the instructor will advise the student on his/her progress and suggest remedial instruction if appropriate.

5. After completing skill and knowledge evaluation, the instructor will advise the student of his/her progress and suggest Alternative Learning Resources, if appropriate.

6. Review "Practice Session for Students," prior to Module Lecture preparation.

7. Alternative Learning Resources:

   All material available in preceding modules is to be assigned to students who present a low level of knowledge or skills during practice simulations.

TRIAGE AND SPECIAL CARE SITUATIONS

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and Chalkboard
Screen
Slide Projector
Filmstrip/cassette Machine

Medical

Supplies needed will depend on simulations chosen by coordinator. See individual simulations.

HANDOUTS

Task Sheets
Skill and Knowledge Objectives
Written Examination

AUDIOVISUALS

Slides by Emergency Care Series, Unit 1
Filmstrips by Emergency Training, Inc. Unit 3

TRIAGE AND SPECIAL CARE SITUATIONS

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material assigned prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 111-169.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 42-49
   Student will complete review activities on Pages: 49-59, 66-74, 83-85, 98-100, 108, 114-115, 119-120, 127-129, 133-134, 140-147, 153-154, 157, 165-166, 172-178.
   Studying these written activities will prepare the student for written final examination.

3. Student shall be responsible to complete one or more triage simulations, acting as senior EMT, with a team of other students.

4. Alternative Learning Resources:

   Student shall be responsible, with the directions of the instructor, to review materials presented or available in all preceding modules, to improve weak points of knowledge and/or skills.

5. Student Skill Development Checklist begins on next page.

TRIAGE AND SPECIAL CARE SITUATIONS

5. Student shall be responsible to complete one triage simulation.

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTOR'S INITIAL
Simulation #1			
Simulation #2			
Simulation #3			
Simulation #4			
Simulation #5			
Simulation #6			
Simulation #7			
Simulation #8			
Simulation #9			
Simulation #10			
Simulation #11			
Simulation #12			
Simulation #13			
Simulation #14			

TRIAGE AND SPECIAL CARE SITUATIONS

LECTURE TOPICS	REFERENCES
I. Multi-Patient Triage	Task I MULTI-PATIENT TRIAGE
A. Definition - sorting of accident victims	
B. Purpose - be sure to treat those patients with life-threatening problems first	
C. Survey of scene (Review - Module I) 1. First ambulance on scene a. triage point b. staging area 2. Triage officer 3. Supply pool 4. Cooperation of rescue services a. EMTs b. firemen c. civil defense d. emergency services e. policeman 5. Use of volunteers	
D. Sorting of victims according to priority 1. High priority; 2. Middle priority; or, 3. Low priority	
PRACTICE SESSION #1	
II. Multi-Problem Triage	Task II MULTI-PROBLEM TRIAGE
A. Definition - sorting of specific problems of a given patient	

TRIAGE AND SPECIAL CARE SITUATIONS

LECTURE TOPICS	REFERENCES
C. Suicide	LOOP 1 Module X
D. Expired Victim	
1. Signs/symptoms	
a. presumptive evidence	
b. positive evidence	
2. County coroner	
3. Preparation of body	
E. Communication Situations	
1. Blind Victim	
a. usable visions	
b. severely impaired	
c. legally blind	
d. causes	
(1) congenital	
(2) adventitious	
e. travel skills of the blind	
(1) orientation	
(2) mobility	
f. communicating with the blind	
g. ambulation of the blind	
h. care of seeing eye dog	
2. Deaf Victim	Input from Manual Communication Instructor
a. prelingually deafness (ameslan)	
b. postlingual deafness (signed English)	
c. geriatric deafness	
d. communication skills	
(1) lip reading	
(2) finger spelling	
(3) sign language	
(4) reading/writing	

TRIAGE AND SPECIAL CARE SITUATIONS

LECTURE TOPICS	REFERENCES
B. Purpose - be sure to treat life-threatening problems first	
C. Survey of patient (Review - Module XII)	
D. Sorting of problems according to priority: 1. High priority; 2. Middle priority; or, 3. Low priority.	
PRACTICE SEESION #2	
III. Special Care Situations	
A. Unconscious Victims 1. Care of eyes a. contact lens 2. Prosthesis a. dentures b. limbs 3. Positioning coma victim a. uninjured b. traumatic coma	
B. Dying Person 1. Physical needs 2. Emotional needs 3. Moral obligation 4. Conduct of EMT 5. Religious aspect a. responsibilities	Input from a minister or psychologist would be valuable.

TRIAGE AND SPECIAL CARE SITUATIONS

PRACTICE SESSION FOR STUDENTS

After the lecture and demonstrations, students should be given the opportunity to practice their skills. The practice session can be conducted in one of several ways:

1. Students can be given the skill evaluation sheets as a job aid or to guide their practice, or they can use their notes taken during the lecture and demonstration. Students should be informed as to what materials and job aids they will be permitted to use.

2. If assistant instructors are available, they can be assigned to groups of students to ensure that the students understand the skill and procedures. If assistant instructors are used, the instructor should train and evaluate the assistant instructors on their ability to perform the required skills prior to the practical exercise.

3. Depending upon the number of students and available equipment, the students should be separated into small groups. Each group can be assigned a skill to practice covering all skill objectives, or all groups can practice the same skill at the same time.

4. Students in the group should be asked to help other students if assistant instructors are not available. Often times, students can communicate with other students in a more efficient manner than the instructor.

During the practice session the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills. However, practice time should not exceed three hours.

2. Should assist any and all students during their practice to:

   A. Correct any incorrect procedures, point out errors
   B. Provide "hints" on ways to recall the correct procedures

3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedure with them -- repeating the demonstrations.

4. Should be careful not to occupy too much of the students' time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

The students have the following responsibilities:

1. To practice skills until they feel comfortable with the procedures.

2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

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TRIAGE AND SPECIAL CARE SITUATIONS

PRACTICE SESSION #1

The students should be presented with the following examples by the instructor and asked to pick first, second, and third priority patients.

The following examples assume that the rescuer walks into an area in which there are three patients and each one is 25 feet from the rescuer.

- Which one is surveyed first?
- Which one is surveyed third?
- Does it make any difference?
- Why?

EXAMPLE 1

Patient A - Large pool of blood next to patient, patient is leaning against the wall with hips and legs on the floor; patient is pale and is gazing at the opposite wall with a blank expression.

Patient B - Patient is pinned under a pile of debris and is screaming that his leg is broken.

Patient C - Patient is laying on the floor on his back, looks bluish in color and doesn't appear to be moving at all.

EXAMPLE 2

Patient A - Patient is slumped over the steering wheel of a car with her airway in a flexed position.

Patient B - Lying on ground with one hip on the ground and one hip touching the rocker panel of the car, screaming she is being crushed.

Patient C - Middle-aged male in back seat holding his chest and leaning against the back seat.

EXAMPLE 3

Patient A - One tire of a car is resting on the patient's chest, the patient's face is a deep purple, mouth and eyes are open.

Patient B - Sitting in the front seat holding a handkerchief over a soft tissue injury to the scalp with head, face, and one shoulder covered with dark redish-brown blood.

Patient C - Lying in a nearby ditch, face down with no movement.

TRIAGE AND SPECIAL CARE SITUATIONS

PRACTICE SESSION #2

INSTRUCTOR ACTIVITIES

In order to present the lesson and evaluate the student's attainment of the specified objectives, the instructor will:

1. Prepare and present the simulation practical exercises.

2. During the practical exercise, monitor the activities of the students and critique those activities. The instructor will not assist the students during this practical exercise.

3. Following the practical exercise, lead a discussion concerning the activities during the practical exercise and critique those activities.

TO THE INSTRUCTOR:

PURPOSE

The purpose of the simulation contained in this course is to create a realistic situation in which the students will be required to combine all previously-learned skills and knowledge. The students must perform all the tasks necessary to provide emergency care to the simulated patients, and all tasks must be performed as outlined in the task descriptions of this course. The simulation exercises provide both the student and the instructor with an opportunity to evaluate the student's performance under realistically-simulated conditions.

PATIENT SELECTION

The simulated patients must be selected carefully since their behavior and acting ability will have a major effect on the relative success of the exercise. It is recommended that the simulated patients be individuals who have emergency care training and experience since this increases the probability that their actions will be realistic. The instructors should not act as patients since they must concentrate on a wide variety of tasks being performed, and it is difficult to be a good observer while being a good actor. There are often individuals in the local area who have extensive experience in acting as victims for disaster drills and other similar activities . These individuals, if used, should be briefed on the exercises and closely monitored to assure they follow the guidelines of this course.

PATIENT ACTIONS

The simulated patients should act as realistic as possible. They must respond to questions asked by the rescuer students in a manner that is not unlike the anticipated response from a real patient (i.e., they should not "give away" the solution to the situation nor should they purposefully deceive the student(s) in an unreasonable manner). The simulated patients should use makeup or simulated moulage kits that make it possible for the students to employ their survey skills as they would in a real situation. Those individuals, whose simulated injuries normally result in pain, must respond in an appropriate manner if the student(s) mishandle the area of injury. At no time should the individual acting as the patient "coach" the student(s). Thus, it is usually advisable that the simulated patients be individuals unknown to most of the students, if possible.

SIMULATED SITUATIONS

The location (e.g., in an automobile, on a set of stairs, etc.) should be realistic and appropriate for the injury or illness to be simulated. In placing the victims in position, it should be noted that these situations should test the students' abilities to cope with difficult situations, not bizarre and impossible problems. The simulation exercises provide the instructor with the opportunity to evaluate each student's performance under conditions which are similar to those encountered in the field, and it is therefore essential that the conditions of the simulation be realistic. At no time during a training program should any exercise be undertaken that has a high probability of causing serious injury to the students, simulated patients, or instructors.

CONTENT OF SIMULATION EXERCISES

A simulation exercise may include either all of the tasks covered to date or a portion of those tasks. It is not effective to conduct simulation exercises early in the program since the decision-making abilities required of the students are not very great when they have only been taught one or two tasks. Once the students have reached the seventeenth lesson, they have received enough training to make a simulation exercise worthwhile. As the course progresses, it is possible to include and/or repeat any exercises previously used or recommended for use. It is recommended that critical life support tasks be included in each exercise conducted to provide the students with an opportunity to maintain their skills in areas where there is no margin for error or mistake in judgment.

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATIONS

PRACTICAL EXERCISES

1. The students will divide into groups of three or four.

2. The instructor will select specific students to be victims and give them instructions concerning their activities.

3. Each group of students will be asked to treat a patient or group of patients as defined in the simulations.

4. Those students selected as victims should alternate with students who have already gone through a simulation exercise to insure that everyone has had the opportunity to participate as a rescuer.

5. It may also be necessary for the instructor to select students to participate as evaluators if there are not enough assistant instructors. These evaluators should rotate as do the victims.

SIMULATION #1

EQUIPMENT NEEDED

MODULE REFERENCE II
VIII

Jump Kit
Adult Manikin
Ambulance Cot
"E" Oxygen Cylinder with Regulator and Connecting Tubing
Portable Suction Unit

VICTIM SITUATION

A local swimming pool manager was summoned as one of his lifeguards jumped into the water to rescue a victim whom he returned to the pool deck. The victim was last known to have jumped from the three meter diving board and after hitting the water, he did not come back to the surface on his own. Upon the arrival of the rescuers, the victim is in a face down position with his arms over his head.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. Victim is unconscious

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #1 (CONTINUED)

E. The victim has no spontaneous respiratory activity

F. The victim has no spontaneous circulatory activity

G. Has not been breathing for three to four minutes

H. Victim has suffered no other traumatic injury

I. Once placed on the ambulance cot for transport, the victim begins to aspirate

INSTRUCTOR ACTIONS

The instructor will act as the pool manager and will assume his instructor role to instruct the rescuers to move from the simulation victim to recording Anne at the conclusion of the primary survey. Diagnostic information must be provided by the instructor during the primary survey.

RESCUER ACTIONS

Check for cervical spine injury
Log roll patient to face up position
Conduct a primary survey
Ventilate and compress sternum
Transport on ambulance cot not stopping compressions for longer than five seconds
Suction patient as needed (by direction of instructor)
Inform hospital staff (instructor) of:
  A. Patient's initial condition
  B. Critical time intervals
  C. Any changes in patient's condition enroute

SIMULATION #2

EQUIPMENT NEEDED

MODULE REFERENCE IV
III,VIII

Jump Kit
Moulage Kit
Orthopaedic Stretcher
Ambulance Cot

VICTIM SITUATION

The victim was hunting during small game season and was walking through a field when struck by a bow hunter's arrow. The victim is discovered lying in a field in a face down position with an arrow in the center of his back.

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #2 (CONTINUED)

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. Victim complains of severe pain at wound sight

E. Victim complains of pain radiating down his left leg

F. Blood pressure - 85/55

G. Pulse - 55/min.

H. Skin is cold and damp

INSTRUCTOR ACTIONS

The instructor shall act as the bow hunter who fired the shot and called the ambulance. He should make several attempts to leave the area making excuses such as: He wishes to go make a phone call, or he has to go find the man with whom he was hunting.

RESCUER ACTIONS

Conduct a primary survey
Determine a mechanism of injury
Conduct a secondary survey
Use bulk dressings to immobilize the arrow
Secure those dressings with a bandage around the patient's trunk
Do not permit the bow hunter to leave (if he does get away, record his hunting license number)
Use the scoop stretcher to remove the patient from the field
Place scoop stretcher and patient on ambulance cot for transportation
Inform hospital staff (instructor) of:
  A. Patient's initial condition
  B. Mechanism of injury
  C. Initial diagnosis
  D. Any changes in patient's condition enroute
  E. Name or hunting license number of the bow hunter

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #3

EQUIPMENT NEEDED

MODULE REFERENCE IV
III,VIII

Jump Kit (with sterile burn dressing)
Moulage Kit
Ambulance Cot

VICTIM SITUATION

The victim should be discovered lying on his back on the floor with his shirt unbuttoned.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. Was working with a steam fitting when it exploded and knocked him on the floor

E. Large area of a second degree burn in the lower left quadrant of the patient's trunk

F. Burned area is extremely painful to touch

G. No pain anywhere else

H. Blood pressure - 90/60

I. Pulse - 52/min.

J. Skin condition outside the burned area is cool and moist

INSTRUCTOR ACTION

The instructor is to act as a bystander and assume his instructor role to provide the necessary information to the students during the primary and secondary survey.

RESCUER ACTIONS

Conduct a primary survey
Determine mechanism of injury
Conduct a secondary survey
Remove clothing from area of burn

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #3 (CONTINUED)

Dress burn with a sterile dressing that has been moistened with clean water (preferably) normal saline I.V. solution
Secure that dressing to that burn with a bandage around the person's trunk
Place victim on an ambulance cot using a 3-man lift
Place the patient in a shock position and maintain body temperature
Inform hospital staff (instructor) of:

A. Patient's initial condition
B. Initial diagnosis
C. Any changes in patient's condition enroute

SIMULATION #4

EQUIPMENT NEEDED

MODULE REFERENCE IV
III,VIII

Jump Kit
Moulage Kit
Rag
"E" Oxygen Cylinder with Regulator and Mask
Ambulance Cot

VICTIM SITUATION

The victim was running by a pole in his yard and a rusty iron hook on that pole cut the inside of his upper right arm. Since it was bleeding rather profusely, his father immediately tied a rag around his arm, just above the injury, as a tourniquet. The victim is sitting on the ground and leaning against the pole with his chin in a tucked position.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. Victim has fainted

E. The bleeding has become worse with the application of the father's tourniquet

F. Blood pressure - 90/95

G. Pulse - 55/min.

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #4 (CONTINUED)

H. Respirations are weak and 22/min.

I. Skin is cool and moist

INSTRUCTOR ACTIONS

The instructor will act as the victim's father and will provide the rescuers with the history of the patient's condition. The instructor will assume his instructor role to provide diagnostic information to the student during the primary and secondary surveys.

RESCUER ACTIONS

Conduct a primary survey
Determine mechanism of injury
Place victim in a shock position
Remove improvised tourniquet
Apply a gauze dressing and bandage
Conduct a secondary survey
Administer oxygen by mask
Transport patient on an ambulance cot
Inform hospital staff (instructor) of:
    A. Mechanism of injury
    B. Patient's initial condition
    C. Initial diagnosis
    D. Approximate blood loss
    E. Any changes in patient's condition enroute

SIMULATION #5

EQUIPMENT NEEDED

MODULE REFERENCE IV
III,VIII

Jump Kit
Moulage Kit
"E" Oxygen Cylinder with Regulator Mask and Nasal Cannula
Ambulance Cot

VICTIM SITUATION

The victim was hunting in a field during deer season and was shot in the upper left quadrant with a 357 magnum revolver. He is found in a prone face down position and the individual who fired the shot is standing at his side.

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #5 (CONTINUED)

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim ___________

D. There is a pool of blood underneath the victim's body

E. There are holes in the victim's chest and back beneath the clavicle and scapula respectively

F. The blood on the victim's chest and back is filled with bubbles

G. The victim is semi-conscious and can barely communicate

H. Blood pressure - 80/45

I. Pulse - 55/min.

J. Patient's skin is cold and moist

K. The shot entered the chest and exited through the back

L. Once the wounds are sealed, the patient's respiratory activity becomes more labored and his condition worsens

INSTRUCTOR ACTIONS

The instructor will act as the individual responsible for firing the shot which has wounded the victim and should attempt to be overly helpful in quickly removing the victim from the scene and shall not be concerned with any emergency care measure that might be taken at the scene. He will assume his instructor role to provide the necessary diagnostic information during the primary and secondary surveys as well as informing the rescuers of the fact that the patient worsens once the airtight dressings have been applied.

RESCUER ACTIONS

Conduct a primary survey
Determine mechanism of injury
Conduct a secondary survey
Apply an airtight dressing and bandage to the exit wound
Place a blanket beside the patient
Log roll the patient to a face up position on that blanket
Place an airtight dressing and bandage on the entrance wound

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #5 (CONTINUED)

Administer oxygen by mask
Place the victim on his left side on the ambulance cot for transportation using a 3-man lift
(Employ the instructor's assistance if necessary)
Loosen the airtight dressing over the entrance wound once informed that the patient's condition has worsened
Transport patient in that position
Inform hospital staff (instructor) of:
A. Patient's initial condition
B. Mechanism of injury
C. Initial diagnosis
D. Any changes in patient's condition enroute

SIMULATION #6

EQUIPMENT NEEDED

MODULE REFERENCE IV, VI
III,VIII

Jump Kit (with paper cup)
Moulage Kit
Ambulance Cot

VICTIM SITUATION

The victim should be discovered in an automobile sitting in the driver's seat with his upper body reclining toward the passenger side of the vehicle. He should be lying on his right side.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of the simulation victim __________

B. Age of the simulation victim __________

C. Weight of the simulation victim __________

D. Victim has been involved in a head-on automobile accident at 65 miles an hour

E. Large hematoma beneath the left eye

F. Victim has an avulsion of the left eye

G. Severe pain in the right rib cage

H. Complains of no pain anywhere else

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #6 (CONTINUED)

I. Blood pressure - 110/70

J. Pulse - 65/min.

K. Skin temperature appears normal

INSTRUCTOR ACTIONS

The instructor witnessed the accident and can provide information concerning mechanism of injury as well as the necessary diagnostic information as the students conduct a primary and secondary survey.

RESCUER ACTIONS

Conduct a primary survey
Determine mechanism of injury
Conduct a secondary survey
Place the paper cup over the avulsed eye and secure it with a bandage
Place a dressing over the right eye and secure with a bandage
Use a 3-man lift to place patient on ambulance cot
Transport patient in condition most comfortable considering pain in right rib cage (probably semi-reclining)
Inform hospital staff (instructor) of:
  A. Patient's initial condition
  B. Initial diagnosis
  C. Any changes in patient's condition enroute

SIMULATION #7

EQUIPMENT NEEDED

MODULE REFERENCE V
III,VIII

Jump Kit
Ambulance Cot
"E" Cylinder with Regulator and Mask
Orthopaedic (scoop) stretcher

VICTIM SITUATION

While tobogganing down a country road, the victim slid under a moving pickup truck. The victim's head and upper body bounced between the toboggan and the frame of the truck.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #7 (CONTINUED)

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. Lying face down on the ground

E. Grunting in painful respiration attempts

F. Unequal lung sounds

G. Blood pressure - 80/60

H. Pulse - 45/min.

I. Respirations are shallow and weak at a rate of 20/min.

J. Pupils are unequal and do not react to light

K. Clear fluid is draining from left ear

L. Victim is unconscious

INSTRUCTOR ACTIONS

The instructor will act as one of the victim's friends who observed the accident. The instructor will assume his instructor role and provide diagnostic information as the students evaluate the patient during the primary and secondary surveys.

RESCUER ACTIONS

Conduct a primary survey and examine for any spinal injury
Log roll the patient to a face up position
Conduct a secondary survey
Administer oxygen by mask
Lift patient to ambulance cot with scoop stretcher
Monitor patient's condition during transportation
Inform hospital staff (instructor) of:
  A. Patient's initial condition
  B. Initial diagnosis
  C. Any changes in patient's condition enroute

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #8

EQUIPMENT NEEDED

MODULE REFERENCE V, VI
III,VIII

Short spine board with straps
Long spine board with straps
Orthopaedic (scoop) stretcher
Jump Kit
Ambulance cot
Air splints
"E" Oxygen Cylinder with Regulator Mask and Nasal Cannula

VICTIM SITUATION

The victim has just been involved in an automobile accident and is slumped over the steering wheel of his car. The car is equipped with head rests and they are in the down position.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. "Star" in the windshield in front of driver's seat

E. Victim is semi-conscious to the extent that he can only mumble "yes" or "no" responses

F. Victim feels no pain anywhere

G. Pupils are unequal and do not react to light

H. Clear fluid is draining from left ear

I. Deformity in right ankle

J. Blood pressure - 80/50

K. Pulse - 50/min.

L. Respirations are shallow and 8/min.

M. Skin is cool and moist

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #8 (CONTINUED)

INSTRUCTOR ACTIONS

The instructor will act as a bystander at the scene and will assume his instructor role to provide diagnostic information as the students evaluate the patient during the primary and secondary surveys.

RESCUER ACTIONS

Conduct a primary survey
Determine mechanism of injury
Conduct a secondary survey
Administer oxygen by mask
Apply the short spine board
Apply a half leg air splint
Remove the victim from the car with the use of the full spine board
Place him on the ambulance cot
Inform the hospital staff (instructor) of:
  A. Patient's initial condition
  B. Patient's initial diagnosis
  C. Any changes in patient's condition enroute

SIMULATION #9

EQUIPMENT NEEDED

MODULE REFERENCE VI
III,VIII

Jump Kit
"E" Oxygen Cylinder with Mask and Nasal Cannula
Ambulance cot
Half backboard with straps
Traction splint
Portable stretcher

VICTIM SITUATION

The patient should be discovered sitting behind the steering wheel of a car with both knees against the bottom of the dashboard. He should slide forward in the seat so that the back of his skull is touching the back of the seat approximately 12" from the bottom of the backrest. If conditions permit (i.e., the car being used is a "junker"), the bottom half of the steering wheel should be broken in a forward movement to simulate the fact that the victim's upper abdominal cavity made contact with the lower half of the steering wheel.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #9 (CONTINUED)

B. Age of simulation victim ________

C. Weight of simulation victim ________

D. Severe abdominal pain, especially on movement

E. No symptoms which relate to a CNS injury

F. Sharp pain in the left mid-thigh

G. The victim's car hit a utility pole head-on at 45 mph

H. Blood Pressure - 85/58

I. Pulse - 57/min.

J. Skin is cool and moist

K. Pupils react slowly but equally to light

INSTRUCTOR ACTIONS

The instructor will act as a bystander and will assume his instructor role to provide the students with the necessary diagnostic information during the primary and secondary survey.

SPECIAL INSTRUCTOR'S NOTE

The half backboard is listed under the "Equipment Required" section of this exercise, yet that piece of equipment does not need to be used in this situation. However, the typical rescuer student tends to try to use any equipment available in the area. Even though a brief assessment of an automobile accident-related injury often warrants the use of the half backboard, this patient's specific injuries do not indicate the need for that equipment.

RESCUER ACTIONS

Conduct a primary survey
Determine mechanism of injury
Conduct a secondary survey
Administer oxygen by mask
Place portable stretcher on front seat on passenger side of patient
Lift and rotate patient to a prone position on front seat on top of stretcher
Apply traction to leg as soon as possible
Apply traction splint
Place patient and portable stretcher on ambulance cot
Inform hospital staff (instructor) of:
    A. The patient's initial condition and vital signs

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #9 (CONTINUED)

B. Initial diagnosis
C. Any changes in patient's condition enroute

SIMULATION #10

EQUIPMENT NEEDED

MODULE REFERENCE VI
III,VIII

Jump kit
Ambulance cot

VICTIM SITUATION

The victim fell headlong down a flight of stairs and landed on his right shoulder with his right arm extended in front of him so that the shoulder took the full force of the blow. He is lying with his hips and legs on the steps with his right shoulder on the floor below.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. The victim is conscious

E. Some tingling in right arm

F. Pain on movement of right arm

G. Right arm is displaced at the shoulder

H. Blood pressure - 100/70

I. Pulse - 70/min.

J. Respirations normal and 16/min.

K. Pupils react well and equally to light

L. Skin temperature normal

M. Only pain is in the right shoulder

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #10 (CONTINUED)

INSTRUCTOR ACTIONS

The instructor saw the fall and can describe what he saw but the rescuers must gather information concerning specific diagnostic signs and symptoms from the victim.

RESCUERS ACTIONS

Conduct a primary survey
Determine mechanism of injury
Conduct a secondary survey
Move patient with a 3-man lift
  (Using the instructor/witness if necessary)
Apply a sling and a swathe
Transport in a sitting position on an ambulance cot
Inform the hospital staff (instructor) of:
  A. Patient's initial condition
  B. Initial diagnosis
  C. Any changes in patient's condition enroute

SIMULATION #11

EQUIPMENT NEEDED

MODULE REFERENCE VI
III,VIII

Jump kit
Moulage kit
Hare traction splint
Air splints
Ambulance cot

VICTIM SITUATION

While repairing a portion of a 20 foot ceiling, the victim fell from his ladder and landed on his left leg and bounced to his left arm. The victim is found lying on his right hip and holding his left arm.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. Complains of pain all over

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #11 (CONTINUED)

E. Venous bleeding from left thigh and a puncture wound

F. Large hematoma on left forearm with distortion

G. Blood pressure - 90/65

H. Pulse - 50/min.

I. Pupils dilated and react slowly but equally

J. Skin is cool and moist

K. Shallow respirations - 25/min.

INSTRUCTOR ACTIONS

The instructor witnessed the fall and can describe what he saw. The instructor will assume his instructor role and provide diagnostic information as the students evaluate the patient during primary and secondary survey.

RESCUER ACTIONS

Conduct a primary survey
Determine mechanism of injury
Conduct a secondary survey
Position patient for application of Hare traction splint
Dress and bandage open fracture of left femur
Apply full arm splint
Apply Hare traction splint
Transport patient on ambulance cot
Inform hospital staff (instructor) of:
    A. Patient's initial condition
    B. Initial diagnosis
    C. Any changes in patient's condition enroute

SIMULATION #12

EQUIPMENT NEEDED

MODULE REFERENCE VII
III,VIII

Jump kit
Poison antidote kit
Ambulance cot
Sink with running water

VICTIM SITUATION

A patient is found in his bed at home and complains of being very nauseated.

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #12 (CONTINUED)

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. Complains about a burning sensation in his stomach and upper airway

E. The victim is coughing uncontrollably

F. His eyes are very red and badly burned

G. The victim was playing in a storage area near the swimming pool

H. The victim was playing with some white powder in a big barrel

I. The barrel contains granular dry chlorine used in the pool

J. Blood pressure - 120/90

K. Pulse - 80/min.

L. Skin is warm and moist

INSTRUCTOR ACTIONS

The instructor should act as a parent of the victim and can inform the rescuer of the fact that the barrel contains granular dry chlorine used in the pool. He can also provide the necessary diagnostic information while the students conduct the primary and secondary surveys.

RESCUER ACTIONS

Conduct a primary survey
Determine mechanism of injury
Conduct a secondary survey
Have the patient swallow a water and activated charcoal mixture
    (This may be simulated with a glass of water and should not involve the actual ingestion of activated charcoal by the simulated victim)
Rinse the patient's eyes with water from the faucet
Transport the patient (quickness should be emphasized)
Inform hospital staff (instructor) of:
    A. Patient's initial condition
    B. Nature of the poison absorbed and ingested

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #12 (CONTINUED)

C. Areas of the body affected
  1. eyes
  2. mouth and lips
  3. esophagus
  4. trachea
  5. lungs
  6. stomach
D. Time of absorption and ingestion
E. Actions taken
F. Any changes in patient's condition enroute

SIMULATION #13

EQUIPMENT NEEDED

MODULE REFERENCE VII
III,VIII

Jump kit
Ambulance cot

VICTIM SITUATION

The victim should be discovered sitting in a semi-reclining position at a desk and the patient's chin should be in a tucked position.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of simulation victim __________

B. Age of simulation victim __________

C. Weight of simulation victim __________

D. Victim is unconscious

E. Known severe diabetic

F. Has been regulating his own insulin dosage

G. Has been eating candy at work (it is not known if it was dietetic candy or not)

H. Has been acting sleepy and confused for several days

I. Blood pressure - 140/70

J. Pulse - 70/min.

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #13 (CONTINUED)

K. Skin is red and dry

L. Patient's breath smells very sweet (acetone)

INSTRUCTOR ACTIONS

The instructor should act as a co-worker of the victim to provide background information when the students ask appropriate questions. As the students conduct the primary and secondary surveys, the instructor should provide the necessary diagnostic information.

RESCUER ACTIONS

Conduct a primary survey (open the partially blocked airway)
Conduct a secondary survey
Lift victim to ambulance cot with a two-man lift from the chair
Transport without delay
Inform hospital staff (instructor) of:
  A. Patient's initial condition
  B. Initial diagnosis
  C. Any changes in patient's condition enroute

SIMULATION #14

EQUIPMENT NEEDED

MODULE REFERENCE VII
III,VIII

Jump kit
"E" Cylinder with Regulator Mask and Nasal Cannula
Adult manikin
Bed
Ambulance cot

VICTIM SITUATION

This victim was watching TV at home and became slightly nauseous with a pressing feeling in his chest and felt the need to lie down. Upon the arrival of the rescuers, they find him lying in bed on his back clutching his left arm.

DIAGNOSTIC INFORMATION

ITEMS A, B, AND C SHOULD REFLECT THE ACTUAL SEX, AGE, AND WEIGHT OF THE SIMULATION VICTIM.

A. Sex of the simulation victim __________

B. Age of the simulation victim __________

C. Weight of the simulation victim _________

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #14 (CONTINUED)

D. Victim has pain in the center of his chest

E. Victim has a sharp pain radiating down his left arm

F. Pain is consistent on both inspiration and exhalation

G. Patient is sweating profusely

H. No history of medical problems

I. Blood pressure - 90/60

J. Pulse is thready - 125/min.

K. Skin is cool and very wet

L. The victim thinks he is suffering from indigestion

M. Upon being placed on the stretcher, the victim experiences respiratory arrest and after four (4) effective ventilations with a bag-valve mask unit, he begins spontaneous respiratory activity again

INSTRUCTOR ACTIONS

The instructor will act as a family member and assume his instructor role to provide necessary diagnostic information during the rescuer's evaluation of the patient in the primary and secondary surveys. Both the instructor and the victim may respond to patient history type questions at their discretion. The instructor should inform the victim to stop breathing once he is placed on the stretcher for transport, and once the students effectively ventilate that patient four times, the victim will begin spontaneous respiratory activity.

SPECIAL INSTRUCTOR NOTE

The requirement in the "Equipment Needed" category of this simulation for an adult manikin serves a distractor purpose. Upon seeing the adult manikin, the students are likely to assume automatically that they will be required to do external cardiac compressions. It is the intent of this exercise to condition the students to constantly observe the patient and provide only that care which is absolutely necessary. The adult manikin should be positioned close to the simulation victim so that the students can observe it easily.

RESCUER ACTIONS

Conduct a primary survey
Conduct a secondary survey
Do not permit the victim to walk to the stretcher
Administer oxygen by mask
Lift the patient to the ambulance cot with a three-man lift

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATION #14 (CONTINUED)

(employing the instructor if necessary and providing close supervision and accurate direction to him)

Elevate the head of the stretcher for transportation

Lower the head of the stretcher and ventilate the patient with bag-valve mask as required

Elevate the head of the stretcher for transport once spontaneous respiratory activity begins

Inform hospital staff (instructor) of:
- A. Patient's initial condition
- B. Initial diagnosis
- C. Any changes in the patient's condition enroute

TRIAGE AND SPECIAL CARE SITUATIONS

SIMULATIONS

SKILL EVALUATION

Because of the variety which may occur in the simulation exercises, the following general form has been provided and should be used as a general guide for the critiquing of student activities during the simulation.

The evaluator should be given a copy of the simulation exercise description to assist in evaluation of the student activities.

SIMULATIONS

SKILL EVALUATION

SIMULATION #1

Students Involved ______
______
______
______

Patient Problem ______________________
____
____

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Check for cervical spine injury	______	______________
Log roll patient to face up position	______	______________
Conduct a primary survey	______	______________
Ventilate and compress sternum	______	______________
Transport on ambulance cot not stopping compressions for longer than 5 seconds	______	______________
Suction patient as needed (by direction of instructor)	______	______________
Inform hospital staff (instructor)	______	______________

PASS ______________
FAIL ______________

SIMULATIONS

SKILL EVALUATION

SIMULATION #2

Students Involved ______

______

______

______

Patient Problem ________________

____

____

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey		
Determine a mechanism of injury		
Conduct a secondary survey		
Use bulk dressings to immobilize the arrow		
Secure those dressings with a bandage around the patient's trunk		
Do not permit the bow hunter to leave		
Use the scoop stretcher to remove the patient from the field		
Place scoop stretcher and patient on ambulance cot for transportation		
Inform hospital staff (instructor)		

PASS ________________

FAIL ________________

SIMULATIONS

SKILL EVALUATION

SIMULATION #3

Students Involved ______

______

______

______

Patient Problem ______

______

______

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey		
Determine mechanism of injury		
Conduct a secondary survey		
Remove clothing from area of burn		
Dress burn with a sterile dressing that has been moistened with clean water (preferably) normal saline I.V. solution		
Secure that dressing to that burn with a bandage around the person's trunk		
Place the victim on an ambulance cot using a three-man lift		
Place the patient in a shock position and maintain body temperature		
Inform hospital staff (instructor)		

PASS ______

FAIL ______

SIMULATIONS

SKILL EVALUATION

SIMULATION #4

Students Involved ______

Patient Problem ______

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey		
Determine mechanism of injury		
Place victim in a shock position		
Remove improvised tourniquet		
Apply a gauze dressing and bandage		
Conduct a secondary survey		
Administer oxygen by mask		
Transport patient on an ambulance cot		
Inform hospital staff (instructor)		

PASS ______

FAIL ______

SIMULATIONS

SKILL EVALUATION

SIMULATION #5

Students Involved ______

______

______

______

Patient Problem ____________________

____

____

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey	______	______
Determine mechanism of injury	______	______
Conduct a secondary survey	______	______
Apply an airtight dressing and bandage to the exit wound	______	______
Place a blanket beside the patient	______	______
Log roll the patient to a face up position on that blanket	______	______
Place an airtight dressing and bandage on the entrance wound	______	______
Administer oxygen by mask	______	______
Place the victim on his left side on the ambulance cot for transportation using a three-man lift (employing the instructor's assistance if necessary)	______	______
Loosen the airtight dressing over the entrance wound once informed that the patient's condition has worsened	______	______
Transport the patient in that position	______	______
Inform hospital staff (instructor)	______	______

PASS ____________

FAIL ____________

SIMULATIONS

SKILL EVALUATION

SIMULATION #6

Student Involved

Patient Problem

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey		
Determine mechanism of injury		
Conduct a secondary survey		
Place the paper cup over the avulsed eye and secure it with a bandage		
Place a dressing over the right eye and secure with a bandage		
Use a three-man lift to place patient on ambulance cot		
Transport patient in condition most comfortable considering pain in right rib cage (probably semi-reclining)		
Inform hospital staff (instructor)		

PASS

FAIL

SIMULATIONS

SKILL EVALUATION

SIMULATION #7

Students Involved ______

______

______

______

Patient Problem ______________________

____

____

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey and examine for any spinal injury		
Log roll patient to a face up position		
Conduct a secondary survey		
Administer oxygen by mask		
Lift patient to ambulance cot with scoop stretcher		
Monitor patient's condition during transportation		
Inform hospital staff (instructor)		

PASS ______________

FAIL ______________

SIMULATIONS

SKILL EVALUATION

SIMULATION #8

Students Involved ______
______
______
______

Patient Problem ____________________
____
____

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey		
Determine mechanism of injury		
Conduct a secondary survey		
Administer oxygen by mask		
Apply the short spine board		
Apply a half leg air splint		
Remove the victim from the car with the use of the full spine board		
Place him on the ambulance cot		
Inform the hospital staff (instructor)		

PASS ____________________

FAIL ____________________

SIMULATIONS

SKILL EVALUATION

SIMULATION #9

Student Involved ________
____
____
____

Patient Problem ________________________
____
____

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey		
Determine mechanism of injury		
Conduct a secondary survey		
Administer oxygen by mask		
Place portable stretcher on front seat on passenger side of patient		
Lift and rotate patient to a prone position on front seat on top of stretcher		
Apply traction to leg as soon as possible		
Apply traction splint		
Place patient and portable stretcher on ambulance cot		
Inform hospital staff (instructor)		

PASS ________________

FAIL ________________

SIMULATIONS

SKILL EVALUATION

SIMULATION #10

Students Involved ______

______

______

______

Patient Problem ______

______

______

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey		
Determine mechanism of injury.		
Conduct a secondary survey		
Move patient with a three-man lift (using the instructor/witness if necessary)		
Apply a sling and a swathe		
Transport in a sitting position on an ambulance cot		
Inform the hospital staff (instructor)		

PASS ______

FAIL ______

SIMULATIONS

SKILL EVALUATION

SIMULATION #11

Students Involved ________

Patient Problem ____________________

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey		
Determine mechanism of injury		
Conduct a secondary survey		
Position patient for application of Hare traction splint		
Dress and bandage open fracture of left femur		
Apply full arm splint		
Apply Hare traction splint		
Transport patient on ambulance cot		
Inform hospital staff (instructor)		

PASS ____________________

FAIL ____________________

SIMULATIONS

SKILL EVALUATION

SIMULATION #12

Students Involved ____
____
____
____

Patient Problem ____
____
____

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey	____	____
Determine mechanism of injury	____	____
Conduct a secondary survey	____	____
Have the patient swallow a water and charcoal mixture (this may be simulated with a glass of water and should not involve the actual ingestion of activated charcoal by the simulation victim)	____	____
Rinse the patient's eyes with water from the faucet	____	____
Transport the patient (quickness should be emphasized)	____	____
Inform hospital staff (instructor)	____	____

PASS ____

FAIL ____

SIMULATIONS

SKILL EVALUATION

SIMULATION #13

Students Involved ________

____

____

____

Patient Problem ____________________

____

____

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey (open the partially blocked airway)	________	____________________
Conduct a secondary survey	________	____________________
Lift victim to ambulance cot with a two-man lift from the chair	________	____________________
Transport without delay	________	____________________
Inform hospital staff (instructor)	________	____________________

PASS ____________________

FAIL ____________________

SIMULATIONS

SKILL EVALUATION

SIMULATION #14

Students Involved ________
____
____
____

Patient Problem ____________________
____
____

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments
Conduct a primary survey		
Conduct a secondary survey		
Do not permit the victim to walk to the stretcher		
Administer oxygen by mask		
Lift the patient to the ambulance cot with a three-man lift (employing the instructor if necessary and providing close supervision and accurate direction to him)		
Elevate the head of the stretcher and ventilate the patient		
Lower the head of the stretcher and ventilate the patient with bag-valve mask as required		
Elevate the head of the stretcher for transport once spontaneous respiratory activity begins		
Inform hospital staff (instructor)		

PASS ____________________

FAIL ____________________

SIMULATIONS

SKILL EVALUATIONS
(General Form)*

SIMULATION # ______　　　　Students Involved ______

Patient Problem ______________　　　　______

______________________　　　　______

______________________　　　　______

Activities Performed	Performed Correctly (Yes-No) (Omitted)	Comments

PASS ______________

FAIL ______________

*For use by the instructor if developing other simulation exercises.

MULTI-PROBLEM TRIAGE

TASK I

ELEMENTS	EXPLANATION
	Assumes that upon initial observation, the patient has more than one problem or condition.
1. Quickly observe for all conditions which may exist	Upon initial examination, those conditions which are life-threatening will be readily apparent.
2. Select the problem, based upon the priority or severity to be treated.	Priority established for treatment is based upon the same priority scale as that for "Multi-Patient Triage."
3. Go to appropriate task for treatment.	

MULTI-PATIENT TRIAGE

TASK II

ELEMENTS	EXPLANATION
	Assumes that there are two or more patients which require emergency care and transportation to a medical facility. Assumes there are two or more rescuers at the scene. Assumes that the following material is available: A. writing implement B. trip report sheet C. writing paper Assumes further that all patients have not been surveyed
1. Select next patient to be surveyed based upon the three levels of priority. (Note 1) (Go to Task, "Primary Survey and Management of the Unconscious Patients.")	If all unconscious patients have been surveyed, begin to survey patients with priority injuries. It is essential to survey all patients for life-threatening conditions before lower priority items are cared for. (It should be noted that the transportation of a number of patients at a time is considered in the task, "Transportation.")

NOTE 1

Patients should be examined and treated based upon the following outline of priorities:

High Priority Injuries
- Airway and Breathing Difficulties
- Cardiac Arrest
- Uncontrolled Bleeding
- Severe Head Injuries
- Open Chest or Abdominal Wounds
- Severe Medical Problems such as heart attacks or poisoning
- Severe Shock

Second Priority Injuries
- Burns
- Major Multiple Fractures
- Back Injuries with or without spinal cord damage

Low Priority Injuries
- Minor Fractures
- Other minor injuries
- Obvious mortal wounds
- Obvious death

MODULE XIII

DISPATCH AND TRAVEL TO THE SCENE

DISPATCH AND TRAVEL TO THE SCENE

KNOWLEDGE OBJECTIVES

After attending the proposed lecture and demonstration sessions, the student will be able to display the following behaviors on a paper and pencil test. Successful performance will be defined as correctly responding to 80 percent of the items appearing on the test. The student will not be permitted to use any materials or notes during the examination.

1. Given a list of reasons for the use of 10-codes, the student will be able to select the best reason for the use of 10-codes. That list will include such reasons as:

   A. To maintain security of communication.
   B. To keep "air-time" as brief as possible.
   C. To create a professional image.
   D. To prevent the patient, the patient's family, and/or other bystanders from understanding what is being said.
   E. To comply with F.C.C. regulations.

2. Given a list of responsibilities, the student will be able to recognize the items on that list that are the responsibility of the dispatcher. That list will include responsibilities such as:

   A. Gather information from the caller concerning the nature of the problem.
   B. Record times of communication.
   C. Determine the crew and vehicle which should respond.
   D. Determine if lights and siren should be used.
   E. Discuss crew members' responsibilities enroute.
   F. Determine if an escort will be needed.

3. Given a list of situations, the student will be able to determine in which situation(s) an ambulance is needed. That list will include situations such as:

   A. An automobile accident in which the dispatcher does not know if anyone is injured or not.
   B. Fire company responds to a house fire with no report of any injuries in the initial request for fire fighters.
   C. Report of a drunk in a bar fight with no known injuries yet.
   D. A woman who has labor pains 30 minutes apart and is seven months pregnant.

4. Given a list of situations, the student will be able to identify those situations in which the response to the scene should be under emergency conditions (i.e., lights and siren). The list will include such situations as:

   A. An automobile accident with no specific information concerning any injuries and/or their severity.
   B. Patient with a possible coronary.

C. A major house fire with no specific information concerning any patients or their injuries.
D. A child has ingested an unknown quantity of a poisonous substance and his vital signs are normal upon receipt of the call.
E. An interhospital transport of a coronary patient.

5. Given a list of causes of ambulance accidents, the student will be able to correctly identify the three most common causes resulting in accidents. That list will contain such causes as:

A. An escort situation.
B. Excessive speed by ambulance driver.
C. Mechanical failure.
D. Failure of other vehicles to yield right-of-way.
E. Following another vehicle too closely.
F. Responding to an ambulance call without lights and siren.

6. Given a list of simulated dispatch information concerning the nature of the problem to be encountered, the student will select, from a list, the equipment which may be needed once at the scene. The list of equipment should include as a minimum:

A. Traction splint.
B. Air splints.
C. 4" x 4" gauze sponges.
D. Conforming gauze bandages.
E. B. P. cuff and stethoscope.
F. Oxygen cylinder with regulator and administration device.
G. Suction device.
H. Extrication equipment.

7. Given a list of situations which might cause a delay in responding to the scene of an emergency ambulance call, the student will select the best alternate procedure for each situation to permit the most rapid response to the scene by either the original vehicle or an alternate vehicle and crew.

8. Given a list of patient problems, the student will be able to select those problems which may be categorized as; high priority injuries, second priority injuries, or low priority injuries. The list of patient problems will contain such problems as:

A. High priority injuries
    Airway and breathing difficulties
    Cardiac arrest
    Uncontrolled bleeding
    Severe head injuries
    Open chest of abdominal wounds
    Severe medical problems (e.g., coronary)
    Severe shock
B. Second priority injuries
    Burns
    Major multiple fractures
    Back injuries with or without spinal cord damage

C. Low priority injuries
    Minor fractures
    Other minor injuries
    Obvious mortal wounds
    Obvious death

9. Given a list of dispatch situations, the student will be able to determine which situations would require the use of red lights and siren enroute to the scene. That list will include such situations as:

    A. A call is received to respond to an automobile accident in which the State Police informs you that there may be some injuries.
    B. You are informed that there is a house fire in your area (with no specific information concerning any patients).
    C. A panic stricken mother calls to ask for an ambulance to pick up her 5 year old son who has fallen off his swing set and may have broken one leg and one arm.
    D. You are called to transfer a patient to a special surgical hospital in another town, 60 miles away, so that the patient may receive surgery to repair tendons and ligaments in his hand.
    E. A doctor calls from the hospital and requests an ambulance to transfer a patient to another hospital to receive a cardiac pacemaker.
    F. One of the members of your own organization calls from the scene of an accident and informs you that there are three patients to be transported with the following problems respectively:
        (1) Severe laceration of the left leg which is dressed and bandaged with bleeding controlled;
        (2) A fractured right arm; and,
        (3) A possible fractured pelvis and hip.
    G. An elderly woman calls in saying that her husband is sitting in a living room chair and she cannot arouse him.
    H. A passerby calling from a pay phone informs the dispatcher that there is a man lying face down on the sidewalk in front of the local tavern who is obviously so drunk he fell down and just went to sleep.

10. Given a list of dispatch situations, the student will be able to determine:

    A. Illnesses of injuries which may be indicated.
    B. What equipment will most likely be needed.

    That list will include such situations as:

    A. A call is received to respond to an automobile accident in which the State Police informs you that there may be some injuries.
    B. A panic stricken mother calls to ask for an ambulance to pick up her 5 year old son who has fallen off his swing set and may have broken one leg and one arm.
    C. A doctor calls from the hospital and requests an ambulance to transfer a patient to another hospital to receive a cardiac pacemaker.

D. One of the members of your organization calls from the scene of an accident and informs you that there are three patients to be transported with the following problems respectively:
   (1) Severe laceration of the left leg which is dressed and bandaged with bleeding controlled;
   (2) A fractured right arm; and,
   (3) A possible fractured pelvis and hip.

E. An elderly woman calls in saying that her husband is sitting in a living room chair and she cannot arouse him

F. A passerby calling from a pay phone informs the dispatcher that there is a man lying face down on the sidewalk in front of the local tavern who is obviously so drunk he fell down and just went to sleep.

11. Identify procedures for care of ambulance before leaving hospital, from a given list.

12. Identify procedure for in-quarters ambulance care, from a given list of responsibility.

DISPATCH AND TRAVEL TO THE SCENE

SKILL OBJECTIVES

After attending the lecture and demonstrations, and given an opportunity to practice the involved skill, the students will be able to correctly perform each of the skill objectives in the presence of the instructor and without the use of references. The student will be required to perform the skill in the proper sequence at a 100% proficiency. Skill evaluation sheets are included in the module to assist the instructor in the evaluation of the skill objectives.

1. Given a telephone (teletrainer), a simulated caller (instructor), and a pencil and paper, the student will be able to gather the necessary information from the caller to dispatch an ambulance and crew on a simulated ambulance call. As a minimum behavior, the student will be able to obtain and determine the following information:

DISPATCHER'S EMERGENCY CALL SHEET

1. Time________________ Date_____________
2. DO YOU HAVE AN EMERGENCY?
3. Nature of emergency_________________________________
4. Caller's Name_______________________________________
5. Caller's Number_____________________________________
6. Name of Patient_____________________________________
7. Sex_______________Age_____________
8. Exact Location and Cross Street_____________________

   ____
9. Other services needed (crash truck, police, fire department, more than one ambulance or crew)________________
10. Information verified? Yes_______No_______
11. Hospital notified? Yes_______No_______ Information

    given____
12. Signature of dispatcher_____________________________

DISPATCH AND TRAVEL TO THE SCENE

INSTRUCTOR ACTIVITIES

In order to prepare and conduct the lesson and evaluate the student's attainment of the specified objectives, the instructor will:

1. Distribute the student activity sheet and handouts during the class period prior to beginning this module. Assignments are:

    A. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 33-48, 493-504, 507-512.

    B. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 9-22, 209-216.

2. This module is planned for 3 hours. The lecture will involve the use of slides, filmstrips, and 16 mm movie. The content of the lecture is specified in the Module Outline.

    A. Slides are from the EMERGENCY CARE SERIES, Robert J. Brady Company, Unit 1.

    B. Filmstrips: BASIC SKILLS FOR THE EMT, by Emergency Training, Inc. Unit 20.
        (1) Driving the Ambulance Safely

    C. Film: Ambulance Run, by Film Communicators.

    D. References:

        (1) Emergency Care and Transportation of the Sick and Injured, by the Committee on Injuries (American Academy of Orthopaedic Surgeons), (1977). 2nd Edition. Pages: 407-417, 397-403.
        (2) Vehicle Rescue, by Harvey Grant, Robert J. Brady Company, (1975). Pages: 56-169, 368-378.
        (3) Infection Potential of Emergency Medical Equipment, by Matthew P. Mally, M.S. The Journal of Emergency Services, July, 1978. Pages: 76-77.

    E. Handouts: No. 10 Code System
    No. 2 Parts of "10" Code System necessary for rescue duty

3. Prepare notes and conduct the demonstration session. The demonstrations consist of the procedures for gathering information from an individual requesting ambulance service.

4. Monitor the students while they practice the demonstrated skill. The instructor will be available during the practice session to answer any questions the students may have and/or to correct any incorrect performance found.

5. After the practice session and lecture, the instructor will evaluate the student's ability to perform each of the skills. The student's skills can be evaluated separately or collectively. In addition, each student will be required to take a written examination. After completing the two evaluations, the instructor will advise the student on his/her progress and suggest alternative learning resources, if appropriate.

DISPATCH AND TRAVEL TO THE SCENE

INSTRUCTIONAL EQUIPMENT AND MATERIALS

EQUIPMENT

Teaching

Chalk and Chalkboard
Slide Projector
Screen
Filmstrip/cassette machine
16 mm Film Projector
Teletrainer

HANDOUTS

Task/LOOP Sheets
Skill and Knowledge Objectives
Student Activity Sheet
Skill Development Checklist
Written Examinations
Skill Evaluation Sheets

AUDIOVISUALS

Slides: EMERGENCY CARE SERIES, Unit 1
Filmstrips: BASIC SKILLS FOR THE EMT, Unit 20
Film: 16 mm Ambulance Run, Film Communicators
1136 Weddington Street
No. Hollywood, California

DISPATCH AND TRAVEL TO THE SCENE

STUDENT ACTIVITIES

1. The student shall be responsible to cover all material prior to Module Lecture.

2. Reading Assignment:

   A. Read knowledge and skill objectives at the beginning of this assignment.

   B. Emergency Care, by Harvey Grant and Robert Murray, Robert J. Brady Company, (1978). 2nd Edition. Pages: 33-48, 493-504, 507-512.

   C. Emergency Care, Self-Instructional Workbook, by J. David Bergeron, Robert J. Brady Company, (1978). 2nd Edition. Pages: 9-22, 209-216.

3. Student Skill Development Checklist for Dispatch and Travel to the Scene. The student shall be responsible for obtaining the instructor's signature when he/she satisfactorily completes each skill.

4. When instructor has completed Module lectures, demonstrations, and the student has completed skills and written evaluations, the instructor may assign Alternative Learning Resources for improvement or as student enrichment.

5. If student has completed all skills and written examinations for the entire course, student should go to Emergency Care, Self-Instructional Workbook, pages 223-248 for Post Test Review.

6. Student should review the West Virginia Practical Scenario Outlines in preparation for final skill evaluation by the Office of Public Service Training in cooperation with the Office of Medical Emergency Service.

7. Before leaving this module the student should satisfactorily complete each skill:

SKILL DEVELOPMENT	PASS	INCOMPLETE	INSTRUCTOR'S INITIALS
A. Receiving a call			
B. Dispatching a unit			

HANDOUT #1

"10" CODE USED BY LAW ENFORCEMENT AGENCIES

10-0 - Caution
10-1 - Unable copy-change location
10-2 - Signal good
10-3 - Stop transmitting
10-4 - Acknowledgment (OK)
10-5 - Relay
10-6 - Busy-stand by unless urgent
10-7 - Out of service
10-8 - In service
10-9 - Repeat
10-10 - Fight in progress
10-11 - Dog case
10-12 - Stand by (Stop)
10-13 - Weather-road report
10-14 - Prowler report
10-15 - Civil disturbance
10-16 - Domestic problem
10-17 - Meet complainant
10-18 - Complete assignment quickly
10-19 - Return to...
10-20 - Location
10-21 - Call...by telephone
10-22 - Disregard
10-23 - Arrived at scene
10-24 - Assignment completed
10-25 - Report in person (meet)...
10-26 - Detaining subject, expedite
10-27 - (Drivers) license information
10-28 - Vehicle registration
10-29 - Check record for wanted
10-30 - Illegal use of radio
10-31 - Crime in progress
10-32 - Man with gun
10-33 - EMERGENCY
10-34 - Riot
10-35 - Major crime alert
10-36 - Correct time
10-37 - (Investigate) suspicious vehicle
10-38 - Stopping suspicious vehicle
10-39 - Urgent - use light, siren
10-40 - Silent run - no light, siren
10-41 - Beginning tour of duty
10-42 - Ending tour of duty
10-43 - Information
10-44 - Request permission to leave patrol...for...
10-45 - Animal carcass in...lane at...
10-46 - Assist motorist
10-47 - Emergency road repairs needed
10-48 - Traffic standard needs repairs
10-49 - Traffic light out at...
10-50 - Accident (F, PI, PD)
10-51 - Wrecker needed
10-52 - Ambulance needed
10-53 - Road blocked at...
10-54 - Livestock on highway
10-55 - Intoxicated driver
10-56 - Intoxicated pedestrian
10-57 - Hit and run (F,PE, PD)
10-58 - Direct traffic
10-59 - Convoy or escort
10-60 - Squad in vicinity
10-61 - Personnel in area
10-62 - Reply to message
10-63 - Prepare make written copy
10-64 - Message for local delivery
10-65 - Net message assignment
10-66 - Message cancellation
10-67 - Clear for net message
10-68 - Dispatch information
10-69 - Message received
10-70 - Fire alarm
10-71 - Advise nature of fire
10-72 - Report progress on fire
10-73 - Smoke report
10-74 - Negative
10-75 - In contact with
10-76 - En route
10-77 - ETA (Estimate Time Arrival)
10-78 - Need assistance
10-79 - Notify coroner
10-80 - Chase in progress
10-81 - Breatherlizer report
10-82 - Reserve lodging
10-83 - Work school xing at...
10-84 - If meeting...advice T
10-85 - Delayed due to ...
10-86 - Officer/operator on duty
10-87 - Pickup/distribute checks
10-88 - Advise present telephone # of
10-89 - Bomb threat
10-90 - Bank alarm at...
10-91 - Pick up prisoner/subject
10-92 - Improperly parked vehicle
10-93 - Blockade
10-94 - Drag racing
10-95 - Prisoner/subject in custody
10-96 - Mental subject
10-97 - Check (test) signal
10-98 - Prison/jail break
10-99 - Records indicate wanted or stolen

HANDOUT #2

NECESSARY 10 - CODES FOR RESCUE DUTY

10-8 - In service
10-23 - On scene
10-76 - En route hospital (PVH, MH, SHH)
10-23 - At hospital
10-24 - Assignment complete
10-7 - Out of Service (in quarters)

10-4 - Acknowledgment
10-5 - Relay
10-20 - Location
10-33 - Emergency
10-36 - Correct Time
10-39 - Urgent - use light and siren
10-40 - Silent run-no light or siren
10-50 - Accident (F, PI, PD)
10-52 - Ambulance needed
10-77 - ETA

Personal Injury Codes

Class A (Adam) - Not serious or urgent (minor lacerations, simple fracture, minor illness)

Class B (Boy) - Serious, but condition stable (multiple fractures, possible heart attack, respiratory problems)

Class C (Charles) - Serious, condition unstable (diabetic shock or coma, overdose, possible heart attack, unconsciousness, respiratory difficulty)

Class D (Daniel) - Multiple injuries (from accident) will need immediate attention! (Unconsciousness, severe shock, severe head or spinal injury, internal injuries, severe hemorrhage)

Class E (Edward) - Cardiac arrest - Doing CPR

Class F (Frank) - Possible DOA

HANDOUT #3

SIGNAL CODE - DEPARTMENT OF TRANSPORTATION

1.	Call your station, person or number given
2.	Report to your station, or address given
3.	Call your Co. Headquarters
4.	Report to your headquarters
(5)	Officer needs help!
6.	Auto accident
6A.	Auto accident person injured
6B.	Auto accident person killed
7.	Hit and run
7A.	Hit and run person injured
7B.	Hit and run person killed
8.	Traffic congestion
9.	Drunk driver
10.	Drunk
11.	Obstructing traffic
12.	Fight
12A.	Using knives
12B.	Using guns
13.	Robbery
13A.	Robbery armed
14.	Stolen automobile
15.	Stipping car
16.	Breaking and entering
16A.	Breaking and entering suspect on premises
16B.	Breaking without entering
16C.	Larceny
16E.	Burglary
17.	Suspicious person
18.	Murder
19.	Investigate occupants of car
20.	Wants to see officer
21.	Suicide
22.	Person drowned
22A.	Person drowning
23.	Transporting illegal liquor
25.	Gambling
26.	Destroying property
27.	Disorderly conduct
28.	Disturbing public worship
29.	Escaped prisoner
30.	Jail break
31.	Indecent exposure
33.	Trespassing
34.	Abduction
35.	Riot
36.	Tampering with automobile
37.	Stabbing
38.	Kidnapping
39.	Bad check
40.	Passing counterfeit money
41.	Arson
42.	Rape
43.	Fraud

HANDOUT #3 (CONTINUED)

SIGNAL CODE - DEPARTMENT OF TRANSPORTATION

44. Felonious assault
45. Bank robbery
47. Forgery
48. Impersonating an officer
49. Sodomy
50. Transporting stolen goods
51. Concealing stolen goods
52. Peddler
53. Adultery
54. Lottery
54A. Transporting in car
55. Fugitive
56. Reckless driving
57A. Carrying an uncased gun
57B. Hunting out of season
57C. Dynamiting for fish
58. Carrying concealed weapon
59. Interview a witness
60. Funeral escort
60A. Handle traffic at funeral
61. Missing person
62. Mine explosion
63. Parking without lights
64. House of ill fame
65. Gypsies
66. Mann Act
67. Shourt change act
68. Complaint of noise
69. Meet complainant
70. Fire
73. Meet officer
74. Auto on fire
75. Forest fire

Phonetic Alphabet

A - Adam
B - Boy
C - Charles
D - David
E - Edward
F - Frank
G - George
H - Henry
I - Ida
J - John
K - King
L - Lincoln
M - Mary
N - Nora
O - Ocean
P - Paul
Q - Queen
R - Robert
S - Sam
T - Tom
U - Union
V - Victor
W - William
X - X-Ray
Y - Young
Z - Zebra

DISPATCH AND TRAVEL TO THE SCENE

LECTURE TOPICS	REFERENCES
I. Six Stages of an Ambulance Call	
A. Pre-Dispatch 1. Vehicle maintenance 2. Personnel training	
B. Dispatch 1. Gather and provide the necessary information 2. Maintain complete and accurate records	
C. Travel to the Scene 1. Evaluation of what to expect at scene 2. Proper use of emergency warning devices 3. Preparation of equipment to be used	Input from West Virginia State Police could be of value.
D. Actions at the Scene 1. Analyze scene conditions 2. Analyze patient(s) condition(s) 3. Set priorities and act 4. Plan ahead for transportation and movement of patients	
E. Travel to the Hospital 1. Continued care of patient 2. Safe, smooth ride 3. Communication with hospital	
F. At the Hospital 1. Smooth transition of patient care responsibilities 2. Provide necessary information to proper hospital staff	

DISPATCH AND TRAVEL TO THE SCENE

LECTURE TOPICS	REFERENCES
3. Local policies will affect actual in-hospital assistance provided by crew	
II. Dispatch	DISPATCH Task I
A. System	
1. Between the ambulance, fire, and police services	Code Handouts
2. Between the ambulance and hospital	Handout #1, #2, #2
3. Telephone	
a. multiple dispatchers	
b. ambulance-only dispatcher	
c. central dispatch (911)	
4. Radio communications	
a. low band, high band, ultrahigh band	
b. 10-codes	
B. Procedures	
1. Answer telephone and gather pertinent information	Element 2
a. location	
b. nature of problem	
c. telephone number	
2. Determine nature of problem	Element 3
a. emotional illness	
b. death of patient	LOOP 2
c. necessity of a coroner	LOOP 5
3. Determine necessity of an ambulance	Element 4
a. ambulance not required	LOOP 3
b. dispatching for more than one service	LOOP 4
4. Inform caller of the estimated time of arrival	Element 5
5. Determine if the call is an emergency	Element 6

DISPATCH AND TRAVEL TO THE SCENE

LECTURE TOPICS	REFERENCES
6. Determine crew and vehicle	LOOP 6
7. Contact crew with information	Element 8
a. nature of call	
b. exact location of call	
8. Monitor communications	Element 9
9. Receive, acknowledge, and record communications (Demonstration #1)	Element 10
C. Responsibilities	
1. Assemble information concerning a request for an ambulance	
2. Determine if the situation is an emergency	
3. Contact the appropriate people and provide the necessary information	
III. Travel to the Scene	
A. Driver	
1. Qualifications	
a. physical examination	
b. examination of driving record	
2. Responsibilities	
a. safe and comfortable ride for the patient	
b. legal aspects -- WV law	
B. Warning devices	TRAVEL TO THE SCENE Task II
1. Purpose - to move steadily through traffic - not for a "zone of safety" when speeding	
2. Dispatcher determines if they are to be used and the driver determines how they are to be used	
3. Lights - beacon and "tunnel" lights	
a. no emergency - no lights are used	
b. emergency - all lights are used	

DISPATCH AND TRAVEL TO THE SCENE

LECTURE TOPICS	REFERENCES
4. Siren	
a. use only for an emergency call	
b. vary the pitch	
5. Headlights	
a. no emergency - low beam	
b. emergency - vary between high and low beam	
C. Procedure	
1. Normal (outlined in Task Elements)	Elements 1-6
2. Special cases	
a. emergency run	LOOP 7
b. escort situation	LOOP 8
c. Equipment malfunction	LOOP 9
d. vehicle failure	LOOP 10
e. inability to locate patient	LOOP 11
f. no radio communications	LOOP 12
IV. In Quarters	
A. Hospital	
1. Linen disposal	
2. Linen replacement	
3. Trash disposal	
4. Replenish equipment	
5. Decontamination of equipment	
B. Squad House Duties	
1. Fuel replenishment	
2. Exterior cleaning	
3. Interior cleaning	
4. Supply check	

DISPATCH AND TRAVEL TO THE SCENE

DEMONSTRATION OUTLINE

INTRODUCTION

This demonstration relates to the skill objectives on page I-1 and involves the skills necessary to gather dispatch information from an individual requesting ambulance service. The skills involved in the dispatching situation require the use of tactful questioning technique and the ability to perceive what is actually occurring at the scene of an accident or sudden illness. The instructor acting as the dispatcher (Instructor #1) should remain cool and calm, while the instructor acting as the caller (Instructor #2) should act in an excited manner to simulate a panic stricken husband requesting an ambulance for his sick wife.

The summary of this demonstration is very important to assure that the exercise provides useful information to the students concerning the skills needed by a dispatcher.

DISPATCH AND TRAVEL TO THE SCENE

DEMONSTRATION #1: RECEIVING A REQUEST FOR AN AMBULANCE

Using another instructor in the same room, a telephone (or simulated telephone), a pencil, paper, and the script below, demonstrate the proper procedure for gathering information and recording that information concerning a request for an ambulance.

PHONE RINGS

Instructor #1, (Record time of call) "Ambulance Service."

Instructor #2, "We need an ambulance right now!"

Instructor #1, "What seems to be the problem, sir?"

Instructor #2, "We need an ambulance, now!"

Instructor #1, "What is your phone number?"

Instructor #2, "261-0911."

Instructor #1, (Record phone number) "Where is the patient now, sir?"

Instructor #2, "On the floor -- hurry!"

Instructor #1, "What is the address there?"

Instructor #2, "RD #3, Hicktown."

Instructor #1, (Record address) "Where are you on RD #3?"

Instructor #2, "Near the old Bible Church, you know where I mean?"

Instructor #1, (Begin to write directions.) "Yes, once we get there, which way should we go?"

Instructor #2, "Turn right, go to the first blacktop road to the right and turn right, go straight until you find a row of 20 mailboxes, and that's it."

Instructor #1, "What color is the house and are you on the same side as the mailboxes?"

Instructor #2, "Yes -- hurry!"

Instructor #1, "What color is the house, sir?"

Instructor #2, "Green, with white trim, but you can't see it from the road, you have to go back our lane."

DISPATCH AND TRAVEL TO THE SCENE

Instructor #1, "How far are you from the Bible Church?"

Instructor #2, "About one and one-half miles."

Instructor #1, "Is the patient breathing?"

Instructor #2, "Yes, but she's really sick!"

Instructor #1, "What do you think is wrong with her?"

Instructor #2, "She says she can't breathe very good, she can't lay down, and she is sweating like crazy."

Instructor #1, "Is she having any chest pain?"

Instructor #2, (Aside) "Honey, are you having any chest pain? Yes, yes she is."

Instructor #1, (Record symptoms) "What is the patient's name?"

Instructor #2, "Jane Doe, she's my wife."

Instructor #1, (Record patient's name.) "Tell your wife we're on our way. Stay with her and try to keep her calm, support her in her sitting position, but don't let her get up and move around. We'll be there as soon as we can. Is there anyone else there with you?"

Instructor #2, "Yes, my neighbor."

Instructor #1, "It might be a good idea to have him stand at the end of your lane so we can find it easily, okay?"

Instructor #2, "Okay, bye."

Instructor #1, "Good-bye, Mr. Doe." (Record time.)

Summarize what has occurred and the critical pieces of information. Describe to the class what information would be presented to crew members, including:

1. Patient's name - Jane Doe

2. Patient's symptoms and possible diagnosis - difficulty in breathing, profuse perspiration, can't lay down - possible congestive Heart Failure Patient.

3. Address and directions

    A. RD #3.
    B. Go to the old Bible Church, turn right, go to first blacktop road to the right, turn right, go straight to a row of about 20 mailboxes. There should be a neighbor waiting, turn right down a lane to a green house with white trim. The house is about one and one-half miles from the church.

DISPATCH AND TRAVEL TO THE SCENE

4. Time call was received __________.
   Time vehicle and crew departs _______.

5. Red lights and siren should be used enroute. As usual, try to avoid the use of the siren in an area in which the patient might hear it.

NOTE: Discuss the nature of questions asked and the reasons for their importance. Explain that double questions such as, "What color is the house and are you on the same side as the mailboxes?", are likely to yield only one answer from an excited caller.

Any routine procedure for questioning the caller must be modified based upon the information that caller volunteers.

DISPATCH AND TRAVEL TO THE SCENE

PRACTICE SESSION

INTRODUCTION

After the lecture and demonstration session, the students should be given the opportunity to practice their skills. It is essential that the students, when acting as the caller, do not volunteer all the necessary information to the dispatcher, but require the dispatcher to ask appropriate questions.

During the practice session, the instructor has the following responsibilities:

1. Must guarantee that all students have had an opportunity to practice all the skills.

2. Should assist any and all students during their practice to:

   A. Correct any incorrect procedures, point out errors.
   B. Provide "hints" on ways to recall the correct procedures.

3. Should provide extra assistance to those students who seem to be having difficulty with any or all skills. While circulating among the various groups of students, the instructor should be able to identify students who are having problems with a given skill. It might be advisable to form a special group of these students and review the procedure with them--repeating the demonstrations.

4. Should be careful not to occupy too much of the students' time with repeated demonstrations of a skill. Remember, this is the time the students are to practice, not the instructor.

The students have the following responsibilities:

1. To practice skills until they feel comfortable with the procedures.

2. To seek help or assistance from the instructor or fellow students if they are having difficulty.

DISPATCH AND TRAVEL TO THE SCENE

PRACTICE SESSION #1

Equipment

1. Note paper
2. Pen or pencil

Procedure

1. Each student should write down a situation and all the information which should be given to a dispatcher.
2. The students should then divide into groups of four.
3. One student should be selected as the caller and another student as the dispatcher, with the remaining two students as observers in each of the groups.
4. The caller and the dispatcher should then simulate a request for an ambulance, and the two remaining students should critique.
5. The dispatcher should be observed to insure that he/she gathers all necessary information, and then the dispatcher should evaluate the situation and determine if it is an emergency situation.
6. The process is repeated until all students have had the opportunity to be a dispatcher and a caller.

DISPATCH AND TRAVEL TO THE SCENE

SKILL EVALUATION

INTRODUCTION

During the evaluation exercise, the instructor should remove the student from the area of other class members and attempt to create a realistic simulation of the information gathering process. The instructor should assume the role of the caller, and the student should act as a dispatcher. The instructor may use one of the cases listed below or develop additional cases for use in this evaluation.

Case I

A panic-stricken father calls screaming that his seven year old son has just started choking on a piece of meat.

Address - 460 North Bellevue Avenue
Slickville, Pennsylvania
Telephone - 687-2306

Case II

A doctor calls requesting an ambulance to transfer a patient to another hospital. The patient is suffering from severe emphysema. The patient is at Latrobe Hospital and is to be taken to Presbyterian Hospital within the next hour.

Doctor's Name - John Smith, M.D.
Hospital Phone Number - 687-0911

Case III

A hysterical man calls to report a two-car auto accident at the corner of Fifth and Maple. He does not know how many people are injured, but there is glass all over the street.

Telephone Number - 687-2410

NOTE: The instructor should not volunteer any information, but rather force the dispatcher to request additional information.

The instructor will inform the students that:

1. Each should act as the dispatcher.
2. Each should record all necessary information.
3. Each will be evaluated on his/her ability to tell the instructor or another student what information he/she has gathered, and the evaluation will be based on the:
   A. Completeness of the information, and
   B. Accuracy of the information.

DISPATCH AND TRAVEL TO THE SCENE

Student's Name____________________________

Passed____________________Failed_________

Skill Evaluation #1 - Dispatch Sheet

DISPATCHER'S EMERGENCY CALL SHEET

1. Time__________________Date_________________
2. DO YOU HAVE AN EMERGENCY?
3. Nature of emergency____
4. Caller's Name____
5. Caller's Number____
6. Name of Patient____
7. Sex___________________Age______________________
8. Exact location and cross street____
9. Other services needed (crash truck, police, fire dept, more than one ambulance or crew)____________________________________
10. Information verified? Yes________No________________
11. Hospital notified? Yes____________No__________Information given____
12. Signature of dispatcher____

DISPATCH AND TRAVEL TO THE SCENE

TASK I

DISPATCH

ELEMENTS	EXPLANATION
	Assumes that the following items are available: A. A telephone system for receiving requests for emergency care B. A radio system for dispatch control C. Writing implement and paper D. Crew members "on call" to respond to requests for ambulance service E. Ambulance vehicles to respond
1. Answer telephone to receive a request for ambulance service and/or emergency care without allowing the telephone to ring more than two times. The first words spoken by the dispatcher should be clear (e.g., "Ambulance Service").	The telephone should be answered in such a manner that it is obvious to the individual requesting service that the number reached is in fact an ambulance service.
2. Gather information from caller about the patient, the incident or conditions resulting in the caller's perception of the need for an ambulance, and the location of the potential patient. Information gathered must include: A. phone number of caller B. name of patient (if known) C. specific location of the patient including the street name and address; or in an auto accident, the nearest intersection or other landmark D. caller's perception of the nature of the patient's problem E. specifics concerning the patient's vital signs (i.e., is the patient breathing, bleeding severely, conscious, or in severe pain) (If any of the listed problems exist, go to LOOP 1.) F. name of the patient's doctor (if known) G. time that the call was received	The method used to gather the information is most often a series of short questions asked by the dispatcher. As the call for an ambulance is received, the person calling may volunteer most of the necessary information, and the dispatcher must gather and record that information as rapidly as possible. The information gathered must be recorded in some manner. If tape recording equipment is available, each call should be taped in order to serve as a backup record if some information is lost or not gathered at all. The dispatcher should always record in writing all vital information relating to the patient's condition and location as well as the time of all activities relating to dispatching a crew and vehicle. A special pad of paper is helpful in providing guidance to the dispatcher in obtaining all the necessary information. In all telephone conversations, it is advisable that the dispatcher find out

DISPATCH AND TRAVEL TO THE SCENE

TASK I (CONTINUED)

DISPATCH

ELEMENTS	EXPLANATION
H. time and date for which ambulance service is requested (if appropriate) I. time that the incident occurred (if appropriate and/or possible)	the name of the caller and use the caller's name, showing a more personal interest in the caller. All information must be as accurate as possible.
3. Determine what the nature of the problem may be, based upon the information gathered from the caller. (If problem is identified as Emotional Illness, LOOP 2.) (If patient is dead, LOOP 3.)	The dispatcher may have to combine all information received from the caller in an attempt to determine the true nature of the patient's problem.
4. Decide that an ambulance is required to transport patient. (If an ambulance is not required, LOOP 4.) (If dispatching for more than one service, LOOP 5.)	If there is any indication that an ambulance is needed, it is best to dispatch a crew and vehicle.
5. Inform caller of the estimated time of arrival and explain any anticipated delays. (If call requires coroner, LOOP 6.)	
6. Determine if this call is an emergency by analyzing all information concerning the call, basing that decision on the fact that the only criteria for an emergency is if the patient's condition is of a "life-threatening" nature.	If an ambulance call is to be handled as a life-threatening emergency, a situation must exist in which the patient's life is in imminent danger if the patient does not receive medical care immediately. Assumes that a list is maintained which contains the names and locations of all individuals subject to call. Assumes that all personnel will use proper FCC procedures as outlined in the Public Safety Communications Standard Operating Procedure Manual.
7. Determine which crew(s) and vehicle(s) will be dispatched, based upon the nature of the call, the personnel, and vehicles available.	Assumes that all crew members have equal levels of training and experience, and all vehicles have the same equipment.

DISPATCH AND TRAVEL TO THE SCENE

TASK I (CONTINUED)

DISPATCH

ELEMENTS	EXPLANATION
(If specialized crew(s) and vehicle(s) are available, LOOP 7.)	
8. Contact the necessary crew members that have been selected by using a phone, a portable radio home monitor system, or by speaking to the crew directly if they are in the same location as the dispatcher. Inform those crew members at that time of the information necessary for them to respond: A. nature of call B. name of patient (if applicable) C. the exact location of call D. any special conditions which may affect travel to the scene.	It is important for the rescuer to know the nature of the call for two reasons; A. To know if the response to the request requires travel under emergency conditions using emergency warning devices; B. To be able to anticipate the situation to be encountered at the scene and prepare for tasks to be performed at the scene while enroute.
9. Monitor communication of the mobile unit (ambulance) by listening to any communication between: A. The ambulance(s) dispatched and any other vehicle crews with whom they may communicate. B. The ambulance(s) dispatched and any other base station. C. The ambulance(s) dispatched and any hospital.	It is important for the dispatcher to be aware of what is occurring in the field which may have an effect on the ambulance(s) dispatched. Anything which might occur may have an effect on future decisions to be made by the dispatcher. The following information is important to the dispatcher: A. location of all vehicles B. location of all crew members C. status of crew (i.e., do they have a patient) D. are crew and vehicle ready for service.
10. Receive, acknowledge, and record communication from mobile units when transmissions indicate that	The dispatcher should record time at which these transmissions are received to provide a permanent record of these

DISPATCH AND TRAVEL TO THE SCENE

TASK I (CONTINUED)

DISPATCH

ELEMENTS	EXPLANATION
they have: A. departed base and are moving to the scene B. arrived at the scene C. departed the scene and are moving to their destination (e.g., hospital or rest home) D. arrived at their destination E. departed their destination and are returning to base F. finished call and are ready for service (Go to Task "Travel to the Scene" Task II.)	aspects of an ambulance call. One of the most common complaints received by those people providing ambulance service is based upon "response time" or the length of time required to get an ambulance to the patient. By recording the time the call was received and all of the information in Element #10, it is possible to determine the exact response time and support or refute any claims of slow ambulance service.

DISPATCH AND TRAVEL TO THE SCENE

TASK II

TRAVEL TO SCENE

ELEMENTS	EXPLANATION
	Assumes that crew has been dispatched and informed of: A. patient's name B. location of patient(s) C. nature of call D. destination to which patient(s) is (are) to be transported (if appropriate) E. any special conditions which may affect travel to the scene F. any other emergency units responding to the scene
1. Determine if the nature of the call requires that emergency warning devices (e.g., red lights and siren) will be used while driving to the scene. (If emergency, go to LOOP 7.)	
2. Determine the best route of travel to the scene by analyzing routes of travel, distance to scene, time of day, weather conditions, probable congested areas along proposed routes.	
3. Determine if a police escort may be needed during any portion of the ambulance call by assessing: A. traffic conditions B. familiarity with the necessary route and destination (If escort is needed, go to LOOP 8)	If traffic conditions indicate that traffic may be very heavy, it may be advantageous to obtain a police escort to assist in negotiating through that traffic. If the crew members are not familiar with the route to be traveled and/or the destination, a police escort may prevent the crew from becoming lost.
4. Determine what equipment will most likely be needed at the scene based on the nature of the call.	The nature of the patient's illness or injury will determine the general types of tasks which will be performed at the scene and will, therefore, dictate the types of equipment which will be needed.
5. Gather the necessary equipment and check to be sure that all of the vital equipment is operating properly.	If the equipment is kept in a cabinet or box hung on the wall or stored in some other organized manner, obtain that equipment and assemble it for use.

DISPATCH AND TRAVEL TO THE SCENE

TASK II (CONTINUED)

TRAVEL TO SCENE

ELEMENTS	EXPLANATION
(If not operating properly, go to LOOP 9.)	
6. Discuss crew members' responsibilities while enroute so that, upon arriving at the scene, each individual will act promptly and efficiently.	Depending upon the members of the crew, it may be possible that a formal assignment of responsibilities will not be made due to a close working relationship or similar experience at a previous time.
7. Follow directions given by dispatcher to locate patient. (If something happens which causes excessive delay, e.g., mechanical failure or flat tire, LOOP 10.) (If unable to locate patient, LOOP 11.)	
8. Arrive at scene and verify that the location reached is, in fact, the location of the patient by checking: A. house number B. name of building C. name on mailbox D. with bystanders, and/or E. some other method which will provide verification.	
9. Contact dispatcher by radio and inform dispatcher that the ambulance and crew have arrived at the scene. (If no radio, LOOP 12.)	Assumes there is a two-way radio communications with dispatcher. Rescuer must use proper FCC procedures in all radio communication procedures.
10. By rapid visual observation, determine if there is more than one patient. (If greater than one patient, go to task "Multi-Patient Triage", Module XII.) (Go to task "Primary Survey and Managment of a Single Patient", Module II.)	

DISPATCH AND TRAVEL TO THE SCENE

LOOP 1

Appropriate Action of Bystanders

ELEMENTS	EXPLANATION
1. Determine what illness or injury symptoms may be treated or alleviated by the caller when given proper instruction by the dispatcher.	Remember, the caller is in an excited state and may have very little training, so instructions must be simple.
2. Provide instruction to the caller in very simple terms concerning emergency care techniques (e.g., airway maintenance, mouth-to-mouth, control of hemorrhage). (Go to Task Element #2, F)	The dispatcher should usually obtain location information before attempting to instruct the caller in any emergency care procedures so that a crew may be dispatched as soon as possible. In that way the crew may be enroute while the dispatcher instructs the caller.

DISPATCH AND TRAVEL TO THE SCENE

LOOP 2

Report of Death

ELEMENTS	EXPLANATION
1. Determine probable cause or conditions surrounding death by gathering information such as: A. brief medical history; B. caller's perception of cause of death; C. approximate time of death; D. where patient died. (Go to Element #4.)	By gathering information concerning the conditions surrounding the patient's death, the dispatcher will be able to determine what auxiliary services may be needed (e.g., coroner, police, or funeral director) and what other actions should occur by the ambulance service.

DISPATCH AND TRAVEL TO THE SCENE

LOOP 3

Ambulance not Required

ELEMENTS	EXPLANATION
1. Suggest appropriate alternative method of transportation to caller (e.g., taxi, convalescent coach, relative's car, hearse).	It may be necessary to explain to the caller, the reason that an ambulance cannot provide the service requested (e.g., an otherwise healthy patient needs a ride to the hospital to have a cast removed from his arm). This explanation will be based on local policy within an ambulance service.
2. Provide caller with assistance necessary (i.e., appropriate phone numbers).	
3. Discontinue call.	

DISPATCHER AND TRAVEL TO THE SCENE

LOOP 4

Dispatching More Than One Service

ELEMENTS	EXPLANATION
1. Determine which ambulance service should take the call based upon: A. location of patient B. location of ambulance services C. nature of call D. type of service provided by various ambulances E. availability of crews and/or vehicles, and F. whose turn it is. (Go to Task Element #5.)	There must be territorial boundaries which must be considered when dispatching two or more ambulance services in the same general area. If these boundaries exist, it is the obligation of the dispatcher to be aware of those boundaries and observe them as much as possible. The nature of the call may dictate that a special service is required which may be offered by only one ambulance service. In that case, the dispatcher should call that special service (e.g., heavy rescue capability, mobile coronary care capability).

DISPATCH AND TRAVEL TO THE SCENE

LOOP 5

Necessity of Coroner

ELEMENTS	EXPLANATION
1. Determine if patient's death will require a coroner's investigation by deciding that one or more of the following conditions exist: A. possible murder B. possible suicide C. unexplained death D. patient has not seen a physician in the last 48 hours E. sudden and unsuspected death F. unusual or suspicious circumstances surrounding patient's death. (If none of the above conditions exist, go to Task Element #6.)	The coroner's office to be notified is the office within the county in which the patient has died. If the body must cross county lines while being transported, the coroner of all counties involved must be notified and their consent given. Technically, the body cannot be moved until the coroner is notified and then: A. examines the body before it is moved, or, B. authorizes movement of the body to another location for his examination.
2. If one or more of the above conditions exist, call coroner's office (or representative, i.e., deputy coroner) and/or police and inform them of the circumstances surrounding the patient's death.	
3. Receive any instruction and assist the coroner, the coroner's representative, or the police as necessary. (Go to Task Element #6.)	

DISPATCH AND TRAVEL TO THE SCENE

LOOP 6

Dispatching Specialized Units

ELEMENTS	EXPLANATION
1. Determine which specialized crews and vehicles are available by checking on call roster and log book to determine what equipment and crew members are already out.	A specialized crew is defined as any group of rescuers which may have training and expertise in an area in which others are not as qualified; and a specialized vehicle is a vehicle which carries equipment, related to the rescuer specialty, which may not be available in other vehicles. An example of a specialized crew and vehicle would be a crew trained in emergency coronary care techniques in a vehicle equipped with an EKG scope, and EKG recorder, I.V. fluid administration equipment, drugs, defibrillator, and telemetry.
2. Select specialized crew and vehicle based upon the nature of the call and the personnel and vehicles available. (Go to Task Element #8.)	

TRAVEL TO SCENE

LOOP 7

Use of Warning Lights

ELEMENTS	EXPLANATION
1. Turn on emergency warning device and travel to the scene by adhering to applicable sections of the West Virginia Vehicle Code.	Any motor vehicle accident involving an ambulance will be judged objectively by the courts. If an ambulance is traveling under emergency conditions it is not exempt from violation of right-of-way law.
2. Come to a complete stop before proceeding through a red traffic signal or a stop sign to be sure other vehicles yield right-of-way. While approaching an intersection, the ambulance should decrease speed and use the siren to alert other drivers of the approach of an emergency vehicle.	It is not stated in the West Virginia Vehicle Code that it is necessary for an emergency vehicle (operating with red lights and siren) to come to a complete stop before proceeding through a red traffic signal or a stop sign. However, it may be best to come to a complete stop in order to carefully observe all traffic in and around an intersection.
3. When overtaking or passing a slow moving vehicle on a two lane road, use the siren to move the vehicle to the right berm of the road so it will not be necessary to cross the centerline of the road; the emergency vehicle should have one mile of visability to observe the opposite lane of traffic. (Go to Task Element #2)	If an accident occurs, involving an emergency vehicle while passing another vehicle in a no-passing zone, it is most likely that the emergency vehicle driver will be at fault and charged with a violation under the Vehicle Code of West Virginia.

TRAVEL TO SCENE

LOOP 8

Police Escort

ELEMENTS	EXPLANATION
	Assumes that there is no direct radio contact with the police.
1. Have dispatcher contact police by telephone to inform them of the need for an escort. (If no escort available, go to Task Element #4)	
2. Determine where ambulance will meet escort vehicle and at what time.	
3. Meet escort vehicle and follow that vehicle by one car length for every 10 miles per hour speed. It may not be necessary to sound the siren of the ambulance in the case of a police escort; however, it may be necessary to avoid being overlooked by other drivers concentrating on the police vehicle.	One of the major disadvantages of an escort situation is that other drivers tend to observe the first passing (police) and may pull back onto the roadway or into an intersection before the ambulance has arrived. Great care must be exercised during an escort to avoid that situation. Another problem which may occur is that the police vehicle may go too fast for the condition of the patient if the policeman driving is not aware of the condition of the patient. If the police vehicle goes too fast, the ambulance driver should go only as fast as may be comfortable and best for the patient's condition.

TRAVEL TO SCENE

LOOP 9

Malfunction of Equipment

ELEMENTS	EXPLANATION
1. Examine equipment to be sure it is properly assembled and if it is not, assemble it properly.	
2. Determine if equipment is now operating properly. (If equipment is operating properly, go to Task Element #6.)	
3. Determine if some minor repair may be made to the equipment in order that it may operate properly and repair that equipment. (If operating properly, go to Task Element #6.)	If a minor repair is necessary and some spare parts and tools are carried in the vehicle, it may be possible to perform some very minor maintenance while enroute to the scene.
4. If nothing may be done to repair or adjust the equipment selected so that it works, select an alternate piece of equipment and/or set of procedures. (Go to Task Element #5.)	If another type of equipment and/or set of procedures is selected, an attempt must be made to select an alternative which will accomplish the job as well as first choice of equipment and/or procedures.

TRAVEL TO SCENE

LOOP 10

Vehicle Failure

ELEMENTS	EXPLANATION
1. Determine that some set of events may cause excessive delay in responding to the call within an acceptable time frame.	Assumes another vehicle can respond within an acceptable time frame.
2. Contact dispatcher by radio and inform dispatcher of expected delay.	
3. Dispatcher must determine if another vehicle can respond within an acceptable time frame. (If another vehicle cannot respond within an acceptable time frame, go to Element #5, LOOP 11) (If another vehicle is to be dispatched, follow dispatch procedures)	
4. Determine what can be done to allow the vehicle to complete service.	If the problem is mechanical, it should be determined if it can be repaired, thus permitting the vehicle to return to complete service. If the problem is other than mechanical, it should be determined if the problem can be eliminated or circumvented (e.g., out of gas, detour enroute to patient, landslide, etc.)
5. Perform those tasks which may be necessary to return the vehicle to complete service (e.g., change a flat tire, fill gas tank with gas, drive around detour). (Go to Task Element #8.)	If the problem cannot be solved by the crew, it will be necessary to obtain help of an appropriate nature.

TRAVEL TO SCENE

LOOP 11

Failure to Locate Patient

ELEMENTS	EXPLANATION
	Assumes that there is a two-way radio communication between vehicle and dispatcher.
1. Call dispatcher on radio and inform dispatcher of ambulance location and explain difficulty in locating patient.	All communications should comply with FCC regulations and any explanation of the situation should be brief.
2. Request that dispatcher verify directions to patient. (If error is found in directions originally recorded, go to Task Element #7)	This usually requires the dispatcher to read the directions over the radio while the crew checks those directions against the directions originally received.
3. If the directions recorded by the rescuer were correct originally, ask dispatcher to obtain a clarification or new set of directions by telephoning caller that requested an ambulance.	
4. Receive clarification of old directions or new set of directions from dispatcher. (Go to Task Element #7)	

TRAVEL TO SCENE

LOOP 12

Arrival at Scene

ELEMENTS	EXPLANATION
1. Contact dispatcher by telephone to inform dispatcher that ambulance has arrived at scene. (Go to Task Element #10)	If a radio is not available, the dispatcher must be contacted in some manner and a telephone may be available and there is no other reasonable method of communication, it will not be possible to inform the dispatcher of the status and location of the crew.